

Canada's Progress towards Completing Commitments to Implement the Sustainable Fisheries Framework

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Background

Canada's marine fisheries are highly valuable: they are a major driver of our economy, shape our culture and sustain our coastal communities. It is important that they are managed well, in ways that support conservation and sustainable use. However, a recent audit by the Commissioner of the Environment and Sustainable Development (CESD) found that although Fisheries and Oceans Canada (DFO) had identified key elements necessary for successful management in its Sustainable Fisheries Framework (SFF; DFO 2019a), it had failed to put these elements in place for many major stocks (CESD 2016).

A key tool for successful management is the Integrated Fisheries Management Plan (IFMP). An IFMP is both a process and a document, with the primary goal of providing the framework for conservation and sustainable use of fisheries resources, outlining how they will be managed for a given period of time (DFO 2013a). IFMPs are developed by DFO in consultation with the fishing industry, other stakeholders, and partners such as Indigenous organizations and the provinces (CESD 2016, DFO 2013a). The CESD audit found that IFMPs were lacking or out of date for nearly a third of stocks examined, and those that were in place had vague objectives for measuring how well stocks were being managed and most often were not publicly available (CESD 2016).

Rebuilding plans are an extension of the IFMP process and document the objectives, timelines and management measures that are specific to growing depleted stocks out of the critical zone (DFO 2013b). According to policy, they have been required for depleted stocks since 2009 (DFO 2009). However, the CESD audit found rebuilding plans were missing for almost all critical zone stocks, increasing the risk that they may not recover (CESD 2016).

To successfully manage stocks, it is important to know how healthy they are. DFO does this by conducting stock assessments, where stock health status is determined, which in turn influences fisheries management decisions, such as catch limits. DFO has established three health status zones: the healthy zone, cautious zone and critical zone. In the critical zone, serious harm is occurring to the stock (DFO 2009). Health status zones are created by defining a limit reference point (LRP) at the boundary of the critical and cautious zones and an upper stock reference point (USR) at the boundary of the cautious and healthy zones (Figure 1, DFO 2009). According to departmental policy for implementing the precautionary approach (PA) in fisheries management, all major fish stocks need defined reference points as well as harvest strategies or harvest control rules (HCRs) that outline a pre-agreed approach to management in each health status zone (DFO 2009). The CESD audit found that, in part because of data availability and quality issues, DFO could not always define the reference points needed to assign health status zones, and reference points were missing for over half of the stocks examined (CESD 2016). Further, management measures for each health status zone were undefined for nearly half of the stocks, meaning that if stock health declines, management measures would be ad hoc, rather than planned (CESD 2016).

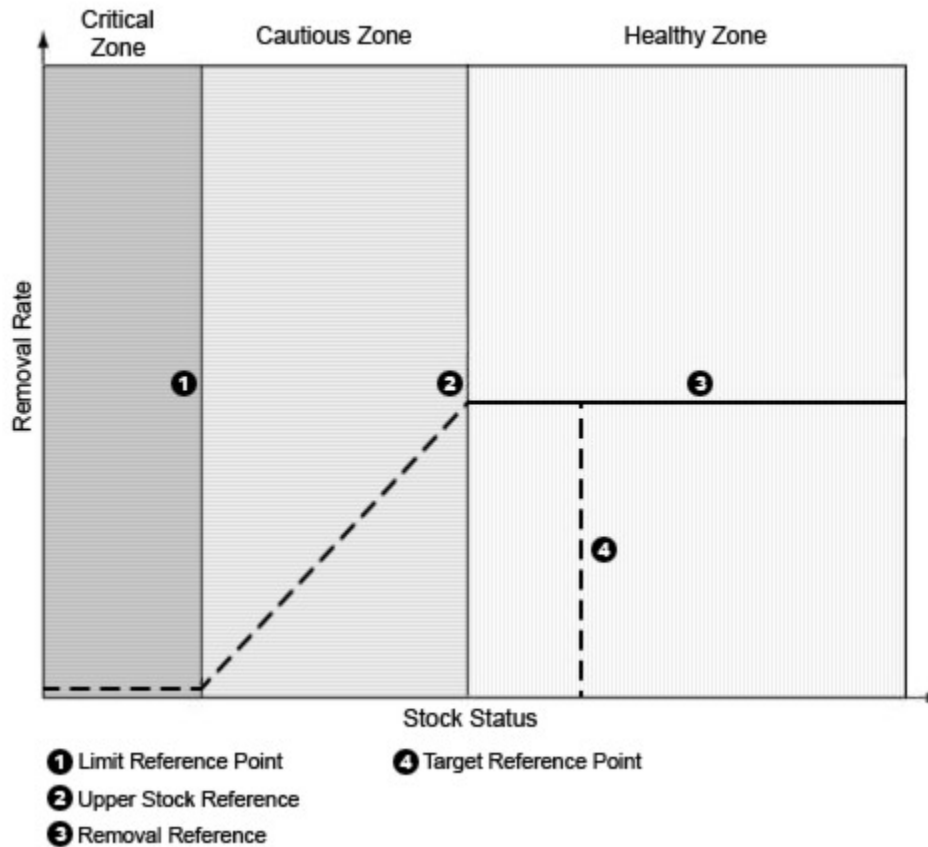


Figure 1. DFO's precautionary approach framework establishes critical, cautious and healthy zones, determined by the limit reference point (LRP), upper stock reference point (USR), target reference point (TRP) and a removal reference point (e.g., F_{ref}) for each status zone (DFO 2009).

In view of these findings, the CESD's recommendations included the following:

CESD Recommendation (2.28): "Fisheries and Oceans Canada should set out priorities, targets, and timelines for putting in place Integrated Fisheries Management Plans for all major fish stocks. These should include long-term, specific, measurable objectives, performance reviews, and rebuilding plans for stocks in the critical zone that are still being fished. These plans should also be made publicly accessible." CESD (2016).

DFO response: "Agreed. Fisheries and Oceans Canada will develop a plan with priorities, targets, and timelines for completing Integrated Fisheries Management Plans (IFMPs) for all major stocks that currently do not have these plans, and for updating existing plans that are out of date. Development of the IFMPs will be consistent with the Departmental guidance on IFMPs, which includes a requirement for clear fishery objectives and a performance review. The Department's plan will include priorities and timelines for making IFMPs not already posted accessible to the public through the Departmental website. The Department will also develop a plan with priorities, targets, and timelines for completing rebuilding plans that are in line with the Department's Guidance for the Development of Rebuilding Plans under the

precautionary approach Framework for stocks that are in the critical zone. The Department will develop both plans by the end of the 2016–17 fiscal-year.” (CESD 2016).

CESD Recommendation (2.63): *“ Fisheries and Oceans Canada should set out priorities and timelines for establishing the reference points at which the major stocks it manages can be considered healthy, in the cautious zone, or in the critical zone.” (CESD 2016).*

DFO response: *“Agreed. Fisheries and Oceans Canada will develop a plan with priorities, targets, and timelines for establishing precautionary approach reference points, where technically feasible, for key stocks under the Department’s management control, where the reference points do not exist. A plan will be developed by the end of the 2016–17 fiscal-year.” (CESD 2016).*

CESD Recommendation (2.65): *“ Fisheries and Oceans Canada should set out priorities and timelines for identifying the measures to be taken if a major stock falls below a certain level, where this has not yet been done, so that sustainable fishing limits can be determined with greater certainty.” (CESD 2016).*

DFO response: *“Agreed. Fisheries and Oceans Canada will develop a plan with priorities, targets, and timelines for establishing precautionary approach harvest control rules, where technically feasible, for key stocks under its management control, where the harvest control rules do not exist. The plan will be developed by the end of the 2016–17 fiscal-year.” (CESD 2016).*

In late November 2017, DFO released a plan in response to the above recommendations (DFO 2017). It included three work plans: 1) to develop PA-compliant reference points and HCRs for major stocks, 2) to develop rebuilding plans for depleted stocks that lacked plans and 3) to complete IFMPs for the major fish stocks that currently do not have one, to update IFMPs as needed and to make IFMPs accessible via the DFO website. Each work plan listed the stock or stock group, the DFO administrative region responsible for it and a description of deliverables for fiscal year 2017/18. DFO also committed to updating the three work plans at the end of 2017/18 fiscal year with new priority actions to be undertaken in the 2018/19 fiscal year, which was done and released in late March 2018 (DFO 2017, DFO 2018a). In March 2019, DFO again updated its progress and released a 2019/20 fiscal year work plan (DFO 2019b). DFO also highlighted in the more comprehensive 2019/20 departmental work plan a commitment to continue to refine and publish the annual fiscal year work plans in response to the CESD audit until the work is complete (DFO 2019c). This allows DFO to increase the transparency of its priorities while ensuring a strategy is in place for ongoing work to continue in the years ahead.

In winter 2020, the COVID-19 pandemic reached Canada, and the requirement of all non-essential federal employees to work from home starting March 16th (Cotnam 2020) likely contributed to a delay in the release of the fiscal year work plan to May 19, 2020 (DFO 2020a). With the release, DFO created a new dedicated website to house all the fiscal year work plans, further signaling the intention to continue the work until it is complete (DFO 2020b). The site highlights how the work plans have been an essential tool in working towards implementation of the CESD recommendations, as well as implementation of the SFF as a whole. Further, it indicates that the work plans have evolved into a new format, the Sustainable Fisheries Framework Work Plan (SFF Work Plan), which will be developed and reported on annually.

A year after the first fiscal year work plan, Oceana Canada began annual assessments of the progress made toward the completion of fiscal year work plan deliverables (Oceana Canada 2018, Oceana Canada 2019a). This current report assesses progress towards the remaining uncompleted 2017/18 and 2018/19 work plan deliverables, all 2019/20 work plan deliverables and outlines the work expected in 2020/21.

Methods

Oceana Canada's assessment of completion status for deliverables was summarized by noting all the ultimate deliverable products in all fiscal year work plans and associated sections. (DFO breaks down each fiscal year work plan into three sections: 1) reference points and HCRs, 2) rebuilding plans and 3) IFMPs.)¹ Deliverables for each ultimate deliverable product (i.e., LRP, USR, HCR, rebuilding plan or IFMP) were each organized by stock (or stock group), with deliverable descriptions, completion status and details on progress. The evaluation of overall completion rate was conducted on work expected to occur in fiscal 2019/20 – work on deliverables from 2017/18 and 2018/19 defined as remaining uncompleted and all 2019/20 deliverables. This is because progress towards ultimate completion of some deliverables was broken down into steps by DFO, resulting in several stocks appearing in multiple fiscal year plans associated with the same ultimate final product. Meanwhile, several deliverables assessed as delayed or ongoing in previous assessments only appear in one fiscal year work plan and are not repeated in the next.

All ultimate deliverable products (i.e., LRP, USR, HCR rebuilding plan or IFMP) for each stock or stock group from each of the three sections were assigned a completion status as of July 1, 2020. All stock definitions remain as they first appeared in the DFO work plans (DFO 2017, DFO 2018a, DFO 2019b, DFO 2020a), unless otherwise noted. Completion status was determined by searching for information on the Canadian Science Advisory Secretariat (CSAS) website and regional fisheries management organization websites (e.g., published reports or meeting schedules for the development of reference points) and departmental websites (e.g., for new or updated IFMPs and rebuilding plans) and by personal communication with DFO officials. One of six completion statuses were assigned to each ultimate deliverable product:

1. **Completed:** Deliverable met and published in publicly available documentation. Because it is important that fisheries management information and scientific information that supports fisheries management is transparent and publicly accessible (DFO 2019d), Oceana Canada required evidence of the ultimate deliverable completion (i.e., LRP, USR, HCR, rebuilding plan or IFMP) in publicly available documentation (i.e., management plans, science reports) but acknowledge that DFO did not commit to publishing every ultimate deliverable in the work plans. Note there was no attempt made to assess the quality of the final deliverable.²
2. **Previously completed:** As above; deliverable met and published in publicly available documentation but previously evaluated as completed (Oceana Canada 2018, Oceana Canada 2019a). Deliverables with this status were excluded from overall completion rate summaries for this year as they were acknowledged as completed last year.
3. **Ongoing:** Progress is still assumed to be ongoing; the deadline has not yet passed or the work plans called only for progress, not completion, in the 2019/20 fiscal year and this progress has not been noted as delayed by DFO.
4. **Suspended:** Deliverable progress halted and DFO has no intention of continuing progress in the imminent future. This may be due to data limitations or the deliverable no longer being considered a requirement.
5. **Previously suspended:** As above; deliverable progress halted but previously evaluated as suspended (Oceana Canada 2018, Oceana Canada 2019a). Deliverables with this status were

¹ In previous fiscal years, DFO broke these into three separate work plans: work plan 1, work plan 2 and work plan 3.

² For an assessment of rebuilding plan quality, please see Oceana Canada (2019b).

excluded from overall completion rate summaries for this year as they were acknowledged as suspended last year.

6. **Delayed:** Deliverable not completed by deadline date; deadline date was pushed back or either the DFO follow-up work plan evaluation or following fiscal year work plan indicates the deliverable was not completed as anticipated.³

The wording of deliverable descriptions in some of the fiscal year sections implies the deliverable might not be completed in the fiscal year and instead progress would be made (e.g., “Ongoing evaluation and potential revision of LRPs in FY [fiscal year] 2018-19”). Most often, the stock or stock groups were included again in the work plans for the following fiscal year, with the next steps outlined in the deliverable (e.g., deliverable noting online posting of an IFMP this year that was committed for updating in the previous year’s work plan) or with an indication the deliverable was not completed as anticipated. In other cases, deliverables were not included or acknowledged as incomplete. In these instances, if the stock did not reappear in the work plan for the next fiscal year, completion status was assessed either against the end of the fiscal year or against any date mentioned in the deliverable description, whichever was later. This issue was mostly resolved starting with the 2018/19 fiscal year work plan, where DFO began releasing follow-up evaluations of the results of all deliverables as determined at the end of the fiscal year. When results were available, they were used to determine if progress towards deliverable completion was ongoing as expected or if progress was delayed and not completed as indicated. Thus, for deliverables with language implying that progress would be made but the deliverable might not be completed in the fiscal year, some are evaluated as delayed because progress towards them was indicated as delayed.

To assess how completion of all work plans (2017/18, 2018/19, 2019/20 and 2020/21) would improve the management of Canada’s marine fish and invertebrate stocks,⁴ the 2020 Fishery Audit dataset of index stocks (Oceana Canada 2020) was used to assess how the following indicators would improve:

1. Percentage of stocks with LRPs
2. Percentage of stocks with USRs
3. Percentage of stocks included in IFMPs
4. Percentage of critical zone stocks with rebuilding plans

All stocks included in the index stock dataset that were also included in the work plans were found and if the work was assumed to be completed, the relevant indicator fields in Oceana Canada’s assessment were adjusted accordingly. Please note that the DFO fiscal year work plans include freshwater fish, diadromous fish and marine mammal stocks. These are excluded from the Fishery Audit dataset, which focuses exclusively on marine fish and invertebrate stocks.

Results

After improvements in the overall deliverables completion⁵ rate last year, the current year’s completion rate was the poorest yet. Only 14.3 per cent (11 deliverables; Table 1) of deliverables were completed as

³ Starting with fiscal year work plan 2018/19, DFO began to release evaluations of the results of all deliverables as evaluated at the end of the fiscal year. This was not done with the 2017/18 fiscal year work plan, and instead footnotes were included in the 2018/19 fiscal year work plan noting delayed progress on repeated deliverables.

⁴ Excluding marine mammals, diadromous fish and freshwater fish.

⁵ The definition of completion used here (i.e., publication in a public document) and the unit of assessment (i.e., ultimate product: the final IFMP, rebuilding plan, LRP, USR or HCR per stock/stock group) differs from DFO reporting on work plans (i.e., interim steps

compared to 43.3 per cent (29 deliverables; Oceana Canada 2019) last year and 25.0 per cent (11 deliverables; Oceana Canada 2018) in the first assessment in 2018 (Figure 1).

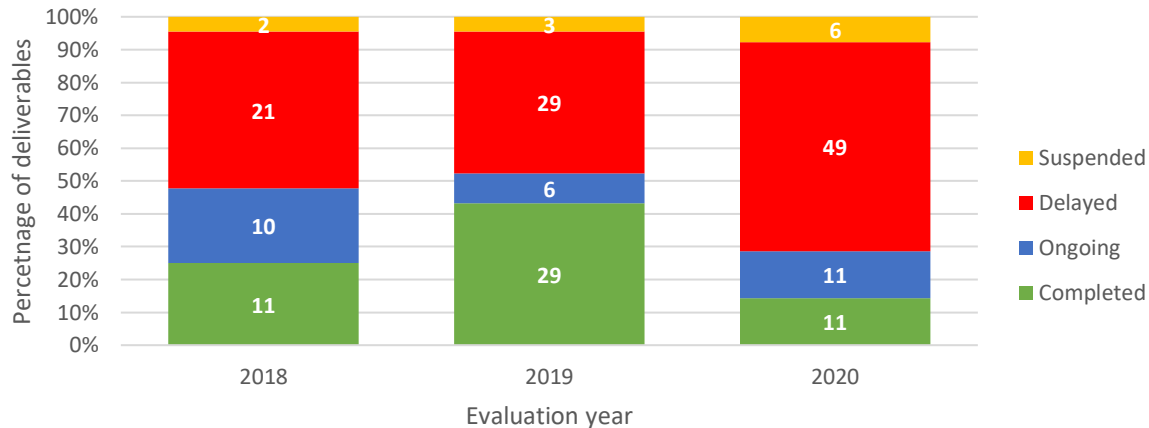


Figure 1. Overall completion rate of fiscal year work plan deliverables as evaluated by Oceana Canada in 2018, 2019 and 2020. The number of deliverables in each completion status category in each year is indicated with white bold font within the bars.

Of the 77 deliverables DFO committed to this year, 14.3 per cent (11) are still ongoing with progress continuing as expected, 63.6 per cent (49) are delayed and 7.8 per cent (6) are suspended (Table 1). IFMPs had the highest completion rate with 20.0 per cent of deliverables completed (5 deliverables completed), followed by HCRs where 17.6 per cent of deliverables were completed (3 deliverables completed). With publication delayed for both of the rebuilding plans committed for completion, rebuilding plans had the highest rate of delays (100.0 per cent delayed; 2 deliverables delayed), followed by IFMPs at 80 per cent of deliverables delayed (20 deliverables delayed).

Within section 1 of the DFO's work plan, pertaining to the development of PA-compliant reference points and HCRs, 22 stocks or stock groups were expected to have work conducted in relation to LRP development or updating in the last year,⁶ 11 stocks or stock groups were expected to have work conducted in relation to USR development or updating,⁷ and 17 stocks or stock groups were expected to have work conducted in relation to HCR development or updating.⁸ Overall, 13.6 per cent (three) of the

towards ultimate products evaluated regardless of public documentation, often with multiple steps per stock/stock group). Combined with differing evaluation end dates (i.e., July 1 versus March 31), this often results in differences between Oceana Canada and DFO statistics regarding deliverable completion.

⁶ 13 stocks or stock groups appearing only in the 2019/20 fiscal year work plan, four stocks or stock groups with deliverables remaining uncompleted from the 2018/19 fiscal year work plans not included in the 2019/20 fiscal year work plans, and five stocks or stock groups with deliverables remaining uncompleted from the 2017/18 fiscal year work plans not included in the 2019/20 fiscal year work plan.

⁷ 10 stocks or stock groups appearing only in the 2019/20 fiscal year work plan and one stock or stock group with deliverables remaining uncompleted from the 2018/19 fiscal year work plans not included in the 2019/20 fiscal year work plans. Note this latter stock was included in the 2018/19 LRP sub-work plan but had a deliverable description pertaining to USR development. The 2019/20 fiscal year work plan was the first to include a sub-work plan dedicated to USRs.

⁸ 15 stocks or stock groups appearing only in the 2019/20 fiscal year work plan, one stock or stock group with deliverables remaining uncompleted from the 2018/19 fiscal year work plans not included in the 2019/20 fiscal year work plans, and one stock or stock group with deliverables remaining uncompleted from the 2017/18 fiscal year work plans not included in the 2019/20 fiscal year work plan.

LRP deliverables were completed, the same amount (13.6 per cent; three) are ongoing as expected, while nearly half (45.5 per cent; 10) had delayed progress and nearly a third (27.3 per cent; six) were suspended, most for further data collection (Table 1; see Table 2 for details on deliverables by stock). None of the USR deliverables were completed; nearly a third (27.3 per cent; three) are ongoing as expected; while the vast majority (72.7 per cent; eight) had delayed progress (Table 1; see Table 3 for details on deliverables by stock). Three of the HCR deliverables were completed (17.6 per cent), while 29.4 per cent (five) are ongoing as expected and over half (52.9 per cent; nine) had delayed progress (Table 1; see Table 4 for details on deliverables by stock).

Within section 2 of its work plan, pertaining to the development of rebuilding plans for depleted stocks, DFO has prioritized 19 stocks for inclusion in rebuilding plans in response to the CESD (2016) audit and includes all 19 in every fiscal year work plan, regardless of their committed deadline date. Completion status determinations were only assessed for the deliverables of two stocks originally slated to be included in rebuilding plans by the end of fiscal year 2019/20. Neither of these were completed (completion as evaluated here would include new rebuilding plans being available online), resulting in 100.0 per cent of these deliverables being delayed (two) (Table 1; see Table 5 for details on deliverables by stock). The rebuilding plan for Atlantic cod in Northwest Atlantic Fisheries Organization (NAFO) areas 2J3KL (i.e., northern cod) and the rebuilding plan for Atlantic mackerel in NAFO sub-areas 2 and 3 (i.e., Atlantic coast) are delayed. Five rebuilding plans were completed in previous fiscal years and two were previously suspended, while most deliverables pertaining to rebuilding plans have not passed their deadline date and have not been evaluated yet (Table 1; see Table 5 for details on deliverables by stock). Those not yet evaluated include additional stocks added to the work plans in 2019/20 and 2020/21, beyond the initial 19 included in 2017/18 and 2018/19 work plans.

Within section 3 of DFO's work plan, pertaining to completion, updating and publication of IFMPs, it was expected that work on developing, updating or posting IFMPs would have been conducted for 25 stocks or stock groups in the last year.⁹ Overall, 20.0 per cent (five) IFMP deliverables were completed and new IFMPs are available, while the rest (80.0 per cent; 20) had delayed progress (Table 1; see Table 6 for details on deliverables by stock).

If *all* deliverables outlined in all four fiscal year work plans (2017/18, 2018/19, 2019/20 and 2020/21) were completed, the percentage of marine fish and invertebrate stocks included in the Oceana Canada Fishery Audit index dataset with LRPs would increase from 63.9 per cent to 74.2 per cent and the percentage of stocks with USRs would increase from 48.5 per cent to 59.3 per cent. Similarly, the percentage of stocks included in IFMPs would increase from 90.7 per cent to 93.3 per cent and all would be available online. Finally, the percentage of critical zone stocks with rebuilding plans would increase from 18.2 per cent to 48.5 per cent.

However, given much of the work outlined for the 2020/21 fiscal year work plan is ongoing and will not be completed in 2020/21,¹⁰ at this time next year we do not expect these indicators to rise to the above levels. Instead, we expect that the percentage of marine fish and invertebrate stocks included in Oceana

⁹ 20 stocks or stock groups appearing only in the 2019/20 fiscal year work plan, and five stocks or stock groups with deliverables remaining uncompleted from the 2018/19 fiscal year work plans not included in the 2019/20 fiscal year work plans.

¹⁰ For example, in section 1B (Precautionary Approach Upper Stock Reference Points) of the 2020/21 work plan, only one of the 11 deliverables indicates that the USR development will be completed, with the rest stating "Will continue development..." or "Will begin development..." or "Will continue to revise..." implying they will not be completed within the fiscal year.

Canada's Fishery Audit index dataset with LRPs should increase to at least 67.0 per cent and the percentage of stocks with USRs should increase only slightly to 49.0 per cent. If IFMPs indicated for posting in this year's work plan are completed and posted and those delayed from previous work plans (but not included this year) are likewise completed and posted, it is expected that at this time next year the percentage of stocks included in IFMPs should rise to 93.3 per cent. The majority of the rebuilding plans are expected to be completed by the end of fiscal 2020/21,¹¹ which will increase the percentage of critical zone stocks with rebuilding plans to 48.5 per cent at this time next year.

Discussion

DFO can be commended for putting a public plan in place for meeting the CESD (2016) audit recommendations of setting priorities, targets and timelines for IFMPs, rebuilding plans, reference points and harvest strategies for all major fish stocks (recommendations 2.28, 2.63 and 2.65). DFO is continuing to meet its commitment to update this plan annually and last year publicly committed to continue to refine and publish it until the work has been completed (DFO 2019c). This year, DFO has moved all these plans to a dedicated website that makes it easier to find and track progress.¹² The site indicates the work plans have evolved into a new format, the Sustainable Fisheries Framework Work Plan (SFF Work Plan) that will be developed and reported on annually. These are continued positive steps towards increasing and maintaining transparency in fisheries management in Canada, making clear what the priorities are and when we can expect improvements.

The development of IFMPs, rebuilding plans, reference points and HCRs are not insignificant tasks. IFMPs and rebuilding plans are developed in close consultation with the rights-holders and stakeholders. USRs are also developed in consultation with rights-holders and stakeholders and with advice and input from scientists, while LRPs are based on biological criteria and established by scientists through a peer reviewed process (DFO 2009). Thus, given the number of meetings and coordination of participants required, it is perhaps not surprising that meeting deliverables is challenging for DFO. However, it is concerning that after improvements in the overall deliverable completion rate in last year's evaluation (2019), progress toward deliverable completion in this year's evaluation (2020)¹³ was the lowest yet, with less than a third completed or progressing as expected (28.6 per cent; 14.3 per cent ongoing as expected and 14.3 per cent completed) and an overall completion rate of less than 15 per cent. Meanwhile the rate of delayed deliverables surpassed 50 per cent for the first time (63.6 per cent).

While the COVID-19 pandemic likely contributed to the delay in releasing the 2020/21 fiscal year work plan, it is difficult to attribute significant portions of the decline in progress towards deliverable completion in fiscal 2019/20 to the pandemic, given the significant impacts of the pandemic in Canada started two weeks before the end of the fiscal year (Cotnam 2020). Although DFO did indicate a couple of IFMPs were in approval stages and those approvals and posting were delayed due to shifting priorities during the pandemic, most delays were due to other circumstances. The impacts of the pandemic are likely to be seen in next year's assessment, with DFO indicating in the 2020/21 fiscal year work plan that it was developed prior to the pandemic and that the timing of certain deliverables will need to be adjusted.

¹¹ All but three rebuilding plan deliverables have deadlines of the end of fiscal 2020/21 (Gulf of St. Lawrence Shrimp, Interior Fraser Coho and Okanagan Chinook have TBD deadlines).

¹² DFO (2020). Sustainable Fisheries Framework Work Plan. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/index-eng.html>

¹³ Including all 2019/20 fiscal year work plan deliverables and remaining uncompleted 2017/18 and 2018/19 fiscal year deliverables.

Starting with the 2018/19 fiscal year work plan, DFO began releasing results of its internal evaluation of progress towards deliverable completion (DFO 2019e, DFO 2020c). The definition of completion used here (i.e., publication in public document) and the unit of assessment (i.e., ultimate product: the final IFMP, rebuilding plan, LRP, USR or HCR per stock/stock group) differs from those DFO use to report on work plans (i.e., interim steps towards ultimate products evaluated regardless of public documentation, often with multiple steps per stock/stock group). Combined with differing evaluation end dates (i.e., July 1 for Oceana Canada, versus March 31 for DFO), this often results in different statistics regarding deliverable completion. Regardless, the results of this independent analysis are not that different from DFO's internal evaluation of the 2019/20 fiscal year work plan, wherein DFO also found that overall more than half of the 2019/20 deliverables had delayed progress (53.3 per cent; 49 deliverables).¹⁴ According to their evaluation, only 15.2 per cent (14 deliverables) of deliverables were completed with a tangible deliverable available and a quarter (25.0 per cent; 23 deliverables) were met, meaning activities were carried out as expected but a tangible deliverable is not available. The remaining deliverables (6.5 per cent; 6 deliverables) were evaluated as "N/A"; the commitment or action as defined in the description of deliverables was not pursued for reasons including the deliverable no longer being considered as required. Given that a) the independent evaluation presented in this report includes uncompleted deliverables carried forward from previous work plans that are occasionally missing from the subsequent work plans developed and evaluated by DFO, and b) that Oceana Canada's evaluation requires the deliverable product (i.e., LRP, USR, HCR, rebuilding plan or IFMP) to be documented publicly, this evaluation can be considered more transparent than DFO's internal evaluation. It is important that fisheries management and scientific information in support of fisheries management is transparent and publicly accessible (DFO 2019d), while acknowledging that DFO did not commit to publishing every product from deliverables within their work plans. All deliverable products (i.e., LRP, USR, HCR, rebuilding plan or IFMP) are, or ultimately appear in, publicly available management plans.

Little progress with rebuilding plans

Rebuilding plans are vital, providing the best chances for restoring the health of Canada's oceans and maintaining and strengthening our coastal communities that depend on them. Rebuilding plans are supposed to outline the specific objectives, timelines and management measures required to promote growth of the stock out of the critical zone, reflecting the unique requirements for rebuilding (DFO 2009, DFO 2013b). Only two rebuilding plans were expected to be completed in the 2019/20 fiscal year, the delayed and urgently needed rebuilding plan for northern cod (Atlantic cod off the northeastern coast of Newfoundland and Labrador in NAFO 2J3KL) and the rebuilding plan for Atlantic mackerel on the Atlantic coast (NAFO areas 2 and 3). Neither were completed and publicly available.

Northern cod – still no rebuilding plan

A working group made up of a subset of the 2J3KLMNO Groundfish Advisory Committee was established and tasked with the development of a rebuilding plan and associated HCR for northern cod. DFO noted in

¹⁴ DFO's evaluation of the 2019/20 fiscal year work plan breaks down as follows for each section:

Section 1 LRPs: 42.9 per cent delayed (6), 14.3 per cent completed (2), 21.4 per cent met (3) and 21.4 per cent N/A (3).

Section 1 USRs: 70 per cent delayed (7), zero completed, 30 per cent met (3) and zero N/A.

Section 1 HCRs: 56.3 per cent delayed (9), 12.5 per cent completed (2), 31.3 per cent met (5) and zero N/A.

Section 2 rebuilding plans, where all are evaluated regardless of deadline dates already or not yet passed: 17.4 per cent delayed (4), 30.4 per cent completed (7), 39.1 per cent met (9) and 13.0 per cent N/A (3).

Section 3 IFMPs: 79.3 per cent delayed (23), 10.3 per cent completed (3), 10.3 per cent met (3) and zero N/A.

the 2018/19 work plan that work to develop and implement an HCR was not completed in fiscal 2017/18 and continued into 2018/19 (DFO 2018a). A draft HCR was presented by DFO to stakeholders in spring of 2018, but adoption or further development of the rebuilding plan was put on hold pending a science peer review of the LRP; the review was held in January 2019, however the LRP was deemed valid (DFO 2019f). In the work plan results for 2018/19, the department indicated these deliverables (HCR and rebuilding plan) were both again delayed (DFO 2019e). The HCR deliverable was omitted from the 2019/20 work plan, not inspiring confidence for its completion, while the 2019/20 (and 2020/21) deliverable description for the northern cod rebuilding plan indicates divergent stakeholder views were limiting progress to define an HCR (DFO 2019b, DFO 2020a). At the April 2019 2J3KLMNO Groundfish Advisory Committee meeting, management indicated the next steps towards the rebuilding plan and associated HCR were still to be determined and that the Newfoundland and Labrador Region was seeking guidance from the Minister. Neither the rebuilding plan nor HCR development was on the agenda for the April 2020 Advisory Committee meeting. However, when asked by an Oceana Canada representative, departmental officials did indicate the rebuilding plan remained a priority. The 2020/21 fiscal year work plan shifted the expected completion date for the rebuilding plan from 2018/19 to 2020/21 (DFO 2020a). It noted that the deliverable was carried forward from the last fiscal year, meaning activities were not carried out as described, but that rebuilding plan completion is expected this fiscal year. It is unclear what progress has been made since 2018 towards HCR and rebuilding plan development for northern cod, but it is suspected no working group meetings have been held since then. DFO needs to decide how to move forward and complete the development of a rebuilding plan for this stock.

Atlantic mackerel – rebuilding plan progress but delays in finalization and publishing

Atlantic mackerel also had a dedicated rebuilding working group established in December 2017, made up of scientists, First Nations representatives, fishers, fisheries managers, environmental groups and provincial governments, and the group was tasked with developing a rebuilding plan, expected in March 2020 (Smith 2019). In March 2019, the stock was assessed and the results from the model were to serve as a basis for a Management Strategy Evaluation (MSE) framework that had been developed (DFO 2019g). The draft MSE was reviewed at the assessment meeting and the following suggestions were made: improve operating models, add trade-offs to management objectives and develop quantitative metrics for evaluation of management procedure performance (DFO 2019h, DFO 2019i, Smith et al. 2020). These recommendations were intended to provide an improved basis to select management procedures (including HCRs) to rebuild the stock under key uncertainties. The working group was to meet throughout the rest of 2019 to provide guidance to the Minister of Fisheries and Oceans on the development of a rebuilding plan (DFO 2019j). The 2020/21 fiscal year work plan indicates this rebuilding plan was completed in the 2019/20 fiscal year (DFO 2020a). However it was still not posted on the website in late May when the 2020 quota decision was communicated. Still, the decision did indicate a rebuilding plan is expected in 2020 (DFO 2020d). Despite the delay, clear progress has been made towards rebuilding plan development for this stock, and it is encouraging to see the development of the rebuilding plan with a dedicated working group using an MSE approach. DFO needs to finalize this rebuilding plan, publish it on the website and implement it.

Much work left to do with rebuilding plans

More than half of the original 19 committed rebuilding plans (10) included in the fiscal year work plans from 2017/18 have deadlines at the end of the 2020/21 fiscal year. This is now less than one year away,

and as noted above, it takes time to develop rebuilding plans, especially those that meet international best practices (Oceana Canada 2019b). The draft rebuilding regulations indicate DFO intends to develop and implement rebuilding plans within 24 months after the Minister determines that a listed stock has declined to or is below its LRP (DFO 2018b). This may be extended to 36 months if additional time is required to collect further scientific information, seek feedback from Indigenous peoples or discuss management measures for a shared stock with other jurisdictions. Thus, it is not surprising that most of the rebuilding plans were slated for completion two to three years after their initial inclusion in the work plans. But it has now been four years since the initial 2017/18 fiscal year work plan was created, and the lack of progress on several of the remaining rebuilding plans is concerning (see Table 5 for details on progress for each stock). A few stocks have had good progress, with dedicated working groups formed and science work to support plan development well underway (e.g., Pacific herring – Haida Gwaii). However, for several stocks (e.g., critical groundfish stocks in the Gulf region) there appears to have been no meetings held yet to convene stakeholders and rights-holders, and little science has been conducted to directly support rebuilding plan development (i.e., long-term projections). Meanwhile, still others have had repeated delays acknowledged by DFO in work plan updates (e.g., Iceland scallop in SFA 16ef, 18a).

While good rebuilding plan development does take time, there is a trade-off between the time required to develop an effective plan and promptly responding to stock decline. Given it is possible for some stocks to recover within 10 years (Costello et al. 2016, Patrick and Cope 2014, Caddy and Agnew 2004), delaying the process of developing a rebuilding plan could mean lost opportunities to prevent decline, especially for stocks declining in the cautious zone. Given that stocks depleted deeper and longer are harder to rebuild (Hutchings and Kuparinen 2014, Neubauer et al. 2013), for stocks already in the critical zone, delays could decrease any remaining chances of promoting stock growth back to the healthy zone. It is important that DFO intensifies efforts and ensures enough resources are available to work on developing meaningful rebuilding plans.

Inclusion in a plan is not enough. It is important that the plans developed are consistent with internationally recognized best practices and include elements that ensure depleted populations are given the best chance to recover to a healthy level of abundance (see Oceana Canada 2019b for an assessment of the quality of existing rebuilding plans and recommendations for the future). Environmental conditions will pose challenges to the recovery of some stocks. To promote the best chances of recovery, rebuilding plans must be developed, and these plans must consider climate change and the cumulative impact of human activities on marine ecosystems.

New rebuilding plan commitments – new questions

An important improvement included in the 2019/20 fiscal year work plan was the addition of new stocks slated for the development of rebuilding plans. Unlike the other sections, where new stocks are added each year (e.g., for reference point development), until last year the rebuilding plan development section listed the same 19 stocks since the inaugural 2017/18 fiscal year work plan. Last year, additional rebuilding plans included: a critically depleted stock not included as a “major” stock in DFO’s Sustainability Survey for Fisheries (SSF; DFO 2019k) (witch flounder in NAFO area 2J3KL); a stock not currently in the critical zone but that was expected to decline lower in the cautious zone (Gulf of St. Lawrence shrimp); and a critically depleted stock that had a rebuilding plan that expired in May 2018 and now requires updating (Atlantic cod in the northern Gulf of St. Lawrence or NAFO 4RS3Pn). This was a positive development, as

there are many critically depleted stocks that require rebuilding plans¹⁵ but lack DFO commitments to develop them.

In the 2020/21 fiscal year work plan, DFO continued with this positive development and added two more stock groups (Interior Fraser coho and Okanagan chinook) to the section for rebuilding plans. However, given these stock groups include depleted Pacific salmon populations assessed (but not yet listed in legislation) as endangered (Okanagan chinook; COSEWIC 2017) and threatened (Fraser coho; COSEWIC 2016), their inclusion raises questions as to how DFO will handle the interactions of law and policy that apply. Namely, how will the *Fishery Act*, associated rebuilding plan requirements and the SFF polices interact with the Wild Salmon Policy, associated international salmon treaties and the *Species at Risk Act* (SARA) requirements – both if the populations are listed and if not?¹⁶ These are complex examples, given most Pacific salmon management falls under international treaties that add an extra layer of consideration. But, they are important questions to clarify, as multiple stocks, even within the original slate of 19 committed rebuilding plans, are part of populations assessed as threatened, endangered or special concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

In response to questions about rebuilding plan development for COSEWIC-assessed (but not SARA-listed) American plaice in the southern Gulf of St. Lawrence (threatened; COSEWIC 2009), DFO has indicated it is examining the processes under the Fish Stocks Provisions (FSP) in the amended *Fisheries Act* with those of SARA to ensure alignment and integration where needed (Fisheries and Aquaculture Management, and Science, Gulf region, personal communication, June 23, 2020). Stocks that are listed in schedule 1 under SARA as threatened or endangered will be exempt from the requirement of a rebuilding plan under the FSPs (Fisheries and Aquaculture Management, and Science, Gulf region, personal communication, June 23, 2020). Given DFO's dismal track record with SARA listing of COSEWIC-assessed threatened and endangered marine commercial species and overall SARA recovery planning efforts for listed marine species (McDevitt-Irwin et al. 2015), the expedient development of much-needed recovery or rebuilding plans for severely depleted fish stocks is questionable. Clear guidelines need to be developed and communicated to rights-holders and stakeholders outlining how these situations will be handled to ensure recovery or rebuilding plans are developed in a timely manner.

Future progress

All elements to be developed in the fiscal year work plans are part of the SFF, which was intended to be implemented over time starting in 2009 (DFO 2019a).¹⁷ Progress has been made to implement the framework, with recent improvements associated with completed fiscal year work plan deliverables. But over a decade later, much work remains. Over one third of marine fish and invertebrate stocks still require LRPs, over half still need USRs, and over 80 per cent of critically depleted stocks still lack a rebuilding plan (Oceana Canada 2020). DFO has clearly laid out its priorities; it now must complete them and fully implement the SFF. If *all* deliverables in all fiscal year work plans were completed, it would result in

¹⁵ 81.8 per cent of critically depleted stocks in Oceana Canada's 2020 index stock dataset (27 of 33) are not included in publicly available rebuilding plans (Oceana Canada 2020).

¹⁶ Even if a population is not listed under SARA, DFO has a policy indicating certain requirements under the Fisheries and Oceans Canada Species at Risk Act Listing Policy and Directive for "Do Not List" Advice. <https://www.dfo-mpo.gc.ca/species-especies/publications/sara-lep/policy-politique/index-eng.html>

¹⁷ Many components of the framework, such as references points, have been part of policy in some regions prior to 2009 (e.g., since 2004 as part of the Atlantic Fisheries Policy Review – A Policy Framework for the Management of Fisheries on Canada's Atlantic Coast (DFO 2004)).

significant increases in the percentage of marine fish and invertebrate stocks with these important management elements. The percentage of stocks with LRP and USRs would both increase by over ten percentage points, and nearly all stocks would be included in IFMPs, all of which would be available online. Importantly, the number of critical zone stocks included in rebuilding plans would rise from just over 18 per cent to just under 50 per cent.¹⁸ It is encouraging to know that these improvements are underway. It is concerning, however, that much of the language in the deliverable descriptions in the last two fiscal year work plans has shifted from indicating work will be completed in a given fiscal year (e.g., "... will be evaluated and implemented by..." or "Develop LRP by ...") to language implying progress without deadlines (e.g., "Will begin to update..." or "Will begin to develop..." or "Will continue to develop..."), implying their completion could be years in the future. Hopefully, work will progress quickly and the percentage of completed deliverables will rise (and the percentage ongoing does not), while the percentage delayed shrinks to none.

Canada's marine fisheries are highly valuable and sustain our coastal communities, yet they are clearly in trouble, with just over one-quarter currently assessed as healthy (Oceana Canada 2020). The fisheries management shortcomings in Canada have been identified, and the response by DFO has been promising. While DFO is still underperforming relative to commitments and fisheries management best practices, priorities have been set and work plans developed. DFO needs to guarantee the work is completed in a timely manner and the SSF fully implemented to ensure the stability of healthy fisheries and to promote the rebuilding of depleted stocks for the benefit of marine ecosystems, coastal communities and the fishing industry.

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Tables

Table 1. **Summary of work plan deliverable completion:** Total number (and percentages) of deliverables expected to be completed in the last year (2019/20 work plan deliverables combined with remaining uncompleted 2017/18 and 2018/19 work plan deliverables) and number of deliverables falling into each completion status category are indicated in bold font. The number of deliverables in all fiscal year work plans combined, the number previously evaluated as completed or suspended in past evaluations, and the number newly added in 2020/21 (but not yet evaluated) are also indicated. See Tables 2–6 for details on each work plan deliverable by stock or stock group.

Fiscal year work plan section		Number of deliverables previously evaluated as completed in 2018 or 2019 ¹⁹	Number of deliverables previously evaluated as suspended in 2018 or 2019 ²⁰	Number of deliverables expected to be completed in 2019/20 ²¹	Number of deliverables in each completion status category				Number of new deliverables added in 2020/21 fiscal year work plan ²²	Number of deliverables in all fiscal year work plans combined
					Completed	Ongoing	Delayed	Suspended		
Section 1: Reference points and harvest control rules	Limit reference points	11	1	22	3 (13.6%)	3 (13.6%)	10 (45.5%)	6 (27.3%)	9	43
	Upper stock reference points ²³	0	0	11	0 (0.0%)	3 (27.3%)	8 (72.7%)	0 (0.0%)	2	13
	Harvest control rules	3	0	17	3 (17.6%)	5 (29.4%)	9 (52.9%)	0 (0.0%)	1	21
Section 2: Rebuilding plans		5	2	2	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	2	25 ²⁴
Section 3: Integrated fisheries management plans		21	0	25	5 (20.0%)	0 (0.0%)	20 (80.0%)	0 (0.0%)	1	47
TOTAL		40	3	77	11 (14.3%)	11 (14.3%)	49 (63.6%)	6 (7.8%)	15	149

¹⁹ As determined by Oceana Canada in the 2018 or 2019 evaluations.

²⁰ As determined by Oceana Canada in the 2018 or 2019 evaluations.

²¹ The number of deliverables expected to be completed in 2019/20 include the 2019/20 work plan deliverables as well as any 2018/19 and 2017/18 work plan deliverables assessed as uncompleted last year.

²² These have not been evaluated here as the 2020/21 fiscal year is ongoing; they will be evaluated next year.

²³ The 2019/20 fiscal year work plan separates USR deliverables into its own sub-table for the first time. For two stocks, the 2017/18 and 2018/19 fiscal year work plans include work for USR in the LRP sub-tables. The deliverable descriptions for these stocks identify work to be conducted towards the development or updating of USR. In 2018 and 2019 these deliverables were evaluated as per the deliverable's description (for the presence of new or updated USRs) but were summarized with LRP deliverables since that is where they were included in the DFO fiscal year work plans evaluated. This year, since the 2019/20 fiscal year work plan appropriately has an USR sub-table, those deliverables are combined with any remaining previous fiscal year work plan USR-related deliverables and are summarized with details in Table 4 below.

²⁴ The total rebuilding plan deliverables includes 13 deliverables not yet evaluated as the deadline dates have not yet passed, and one deliverable not evaluated because it was added in 2019/20 but the stock was already included in rebuilding plan in 2014, prior to the creation of the first fiscal year work plan (see Table 5 for further details). With the addition of these, the total number of deliverables equals 25.

Table 2. **Work plan section 1A; determining precautionary approach limit reference points (LRPs):** In Section 1 of its annual work plans, Fisheries and Oceans Canada (DFO) prioritizes stocks or stock groups for which it will develop precautionary approach reference points and harvest control rules (DFO 2017, DFO 2019a, DFO 2019b, DFO 2020a). Section 1 is broken down into sub-sections pertaining to reference points and harvest control rules.²⁵ In 2019/20, three of these pertained to LRPs: To develop LRPs (1A), to update or revise LRPs (1B) or make progress towards developing LRPs (1C). The table below summarizes all LRP deliverables²⁶ from section 1 of DFO's fiscal year work plans across all years by stock or stock group, with the most recent health status²⁷ and status towards completion as assessed by Oceana Canada. Checkmark symbols with fiscal year indicate the type of LRP deliverable, while annual deliverable descriptions provided by DFO are also included in associated columns. Stocks with new or revised LRPs in documentation available online are noted as completed, stocks that have had deadlines shifted or delays in progress indicated by DFO are noted as delayed, and stocks for which the deadline has not yet passed or for which the work plan deliverable was only to make progress are noted as ongoing. (Please note that the table does not include an assessment of LRP quality.) Details on status determinations are provided for stocks included in the 2017/18, 2018/19 and 2019/20 work plans. Stocks appearing first, before the bold line separating rows (rows 1–12), were previously assessed as completed or suspended in the 2018 or 2019 evaluation. Stocks after the bold line but before the dashed bold line (rows 13–34) were evaluated this year and included in the evaluation summary table above (Table 1). Stocks appearing after the bold dashed line (rows 35–43) appear only in the 2020/21 work plan and were not evaluated for status completion.

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
1	Gulf	Atlantic salmon – Gulf Region; Uncertain†	✓2017/18			Develop LRP by March 31, 2018.				Previously completed (2018)
Details: River-specific LRPs were developed for most rivers in the southern Gulf of St. Lawrence during a CSAS process held in February 2018, and details are available online in the CSAS Science Response document. ²⁸										
2	Maritimes	Lobster – inshore LFA 27-33; Healthy		✓2017/18		Refine LRP by March 31, 2018. Following this the IFMP will be updated by March 31, 2019. ²⁹				Previously completed (2018)
Details: New reference points were accepted at a framework meeting for LFAs 27–33 in January 2018, according to documents available from a stock status update process held in February 2018 ³⁰ (the documents expected to be published from the January meeting are still not yet available).										
3	Maritimes	Lobster – offshore LFA 41; Healthy		✓2017/18 ✓2018/19		Refine LRP by March 31, 2018. Following this the IFMP will be updated by March 31, 2019.	Update on progress in developing the precautionary approach Framework; update to reference points. Some minor updates and corrections. The offshore lobster were previously			Previously completed (2018)

²⁵ In the 2017/18 and 2018/19 fiscal year work plans there were only two sub-sections that pertained to LRPs: to develop LRPs (1A) and to update and revise or begin to develop LRPs (1B). In 2019/20 the latter sub-section was broken down further into two sub-sections: to update or revise LRPs (1B) and to make progress in developing LRPs (1C), with the latter clearly indicating that stocks within it are not necessarily expected to have LRPs finalized in 2019/20. In Table 2, stocks previously appearing in the older merged classification were assigned to the “Update or revise LRP” field and completion status was evaluated based on wording in the deliverable description. In the 2020/21 fiscal year work plans there is only one sub-section dedicated to LRPs with the previous headings included in the details of the deliverable description. Checkmarks for 2020/21 were placed based on wording in the description.

²⁶ As stated in DFO work plans.

²⁷ Health status was assigned primarily using Oceana Canada’s Fishery Audit dataset (Oceana Canada 2020), with † denoting assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results (DFO 2019k) and †† denoting uncertain status assigned when stocks were not included in either dataset. As some records represent multiple stocks that appear as more than one record in the datasets used to assign status, all unique statuses for stocks within stock groups are included when applicable.

²⁸ DFO (2018). Limit Reference Points for Atlantic Salmon Rivers in DFO Gulf Region. DFO Can. Sci. Advis. Sec. Sci. Res. 2018/015. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_015-eng.html

²⁹ The 2017/18 deliverables statement for this section of the work plan (work plan 1) indicates the IFMP will be updated by March 31, 2019, which contradicts the deliverables statement in the IFMP section of the work plan (work plan 3) for the same fiscal year, where it is stated that the inshore lobster IFMP was to be posted online in 2017/18. This statement here is, however, consistent with the 2018/19 work plan.

³⁰ DFO (2018). Stock Status Update of American Lobster (*Homarus americanus*) in Lobster Fishing Areas (LFAs) 27–33. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/030. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_030-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
							noted for completion in 2017/18.			
<p>Details: It is noted in the 2018/19 work plan that work to update reference points was not completed in 2017/18 and was to continue into 2018/19. However, two CSAS processes were held in 2017: a framework assessment in January and a stock assessment in September. The research document produced from the framework assessment indicates that attempts to develop reference points based on biomass dynamic modelling were not possible, but several survey and landings-based options to develop reference point indicators were developed.³¹ Four pairs of upper stock indicators and limit stock indicators were recommended. The second process assessed the stock against these reference indicators.³² According to the 2018/19 work plan, further minor updates and corrections remain to be conducted on reference points. A CSAS Science Response process was held in October 2018 to update the stock status against reference points.³³ In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.³⁴</p>										
4	Maritimes	Gaspereau – Maritimes Region; Uncertain [†]		✓2017/18		Refine reference points based on new scientific information.				Previously completed (2018) ³⁵
<p>Details: Alewife (<i>Alosa pseudoharengus</i>) and blueback herring (<i>Alosa aestivalis</i>) are diadromous fish that are collectively referred to as river herring and are fished together as “gaspereau.”³⁶ In February 2016 a CSAS process was held, in part to determine how to develop reference points.³⁷ A CSAS report indicates that an LRP was developed for alewife but not blueback herring due to data deficiencies, and the development of reference points for blueback herring were deferred until more population-specific data are available.³⁸</p>										
5	Quebec and National Capital Region	Acadian and deepwater redbfish – Units 1 and 2; ³⁹ Cautious, Healthy		✓2017/18		LRP refinements will be completed in conjunction with the management strategy evaluation (MSE), which is anticipated to be completed by late spring 2018.				Previously completed (2018)
<p>Details: The LRP for Acadian redbfish in units 1 and 2 combined and the LRP for deepwater redbfish in units 1 and 2 combined were completed in conjunction with the MSE.⁴⁰ These were then revised at a CSAS process held in January 2020 and documented in a CSAS Science Advisory Report.⁴¹</p>										
6	Maritimes	Atlantic cod – 4X5Y; Critical		✓2018/19			Update to limit reference points, if Science determines that a change			Previously completed (2019)

³¹ DFO (2017). Framework Assessment of the Offshore American Lobster (*Homarus americanus*) in Lobster Fishing Area (LFA) 41. DFO Can. Sci. Advis. Sec. Res. Doc. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2017/2017_065-eng.html

³² DFO (2018). Assessment of Lobster (*Homarus americanus*) in Lobster Fishing Area 41 (4X + 5Z) for 2016. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/004. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_004-eng.html

³³ DFO (2018). Terms of Reference. Stock Status Update of American Lobster in Lobster Fishing Area (LFA) 41. Regional Science Response Process – Maritimes Region. November 16, 2018, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/11_16b-eng.html

³⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁵ This deliverable has a completion status of “Delayed” assigned in 2018 when it should have been assessed as “Completed,” which was corrected in 2019. Scientists did refine reference points (in February 2016) for alewife and clearly indicated more data is required to develop reference points for blueback herring in a publicly available report (published April 2018).

³⁶ Gibson, A.J.F., Bowlby, H.D., & Keyser, F.M. (2016). A Framework for the Assessment of the Status of River Herring Populations and Fisheries in DFO’s Maritimes Region. DFO Can. Sci. Advis. Sec. Res. Doc. 2016/105. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2016/2016_105-eng.html

³⁷ DFO (2016). Terms of Reference. Maritimes Region River Herring Framework and Case Study Application to the Tusket River Fishery. Regional Peer Review – Maritimes Region. February 9–11, 2016, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2016/02_09-11-eng.html

³⁸ Gibson, A.J.F., Bowlby, H.D., and Keyser, F.M. (2017). A Framework for the Assessment of the Status of River Herring Populations and Fisheries in DFO’s Maritimes Region. DFO Can. Sci. Advis. Sec. Res. Doc. 2016/105. vi + 69 p. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2016/2016_105-eng.html

³⁹ Included in 2017/18 work plan 1 as species combined, units combined.

⁴⁰ DFO (2018). Units 1+2 Redfish Management Strategy Evaluation. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/033. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_033-eng.html

⁴¹ DFO (2020). Redfish (*Sebastes mentella* and *S. fasciatus*) Stocks Assessment in Units 1 and 2 in 2019. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2020/019. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_019-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
							needs to be made (LRP will be reviewed by Science in 2018/19).			
<p>Details: Three CSAS processes were held in 2018 pertaining to Atlantic cod in 4X5Y. Two of these pertained to the framework assessment, with the first part reviewing data inputs held in March and the second part reviewing modelling approaches in November. The terms of reference for the latter process indicate LRP revision would occur.⁴² No documents are yet available from either process, but a revised LRP is included in the report⁴³ from the third process held in December 2018 to assess the stock using the new modelling framework. In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.⁴⁴</p>										
7	Newfoundland and Labrador	Witch flounder – 2J+3KL; Critical	✓2018/19				Develop limit reference points by March 31, 2019			Previously completed (2019)
<p>Details: A CSAS process was held in May 2018 to assess witch flounder in 2J3KL, and details on the LRP and its development are available online in the CSAS Science Advisory Report.⁴⁵ In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.⁴⁶</p>										
8	Newfoundland and Labrador	Snow crab – 2J, 3KLNO and 3Ps; Critical, Cautious		✓2018/19 ✓2019/20			Ongoing evaluation and potential development of LRPs in FY 2018-19.	Will begin revision of LRP in 2019-20.		Previously completed (2019)
<p>Details: Two CSAS processes were held in 2018 pertaining to snow crab stocks off the coast of Newfoundland and Labrador. The first, in February, was a stock assessment. Reference point development was not in the terms of reference,⁴⁷ nor did any appear in the resulting report from the meeting.⁴⁸ The second process, in June 2018, was held to develop a precautionary approach framework for snow crab in the Newfoundland and Labrador Region and included the key objective of defining the LRP.⁴⁹ The research document published from this meeting indicate LRPs were established.⁵⁰ An additional CSAS process was held in February 2019,⁵¹ and the CSAS Science Advisory Report includes details about the LRPs and stock statuses in relation to them.⁵² Departmental officials indicate there is currently no plan to revise the LRPs since their development in June 2018 (DFO Science, personal communication, June 28, 2019). In the work plan results for 2018/19 the department also indicated this deliverable is completed, as did the 2019/20 work plan results;⁵³ a tangible deliverable is complete and available as a result.⁵⁴</p>										

⁴² DFO (2018). Terms of Reference. Assessment Framework for 4X5Y Atlantic Cod: Part 2 – Review of Modelling Approaches. Regional Peer Review – Maritimes Region. November 6–8, 2018. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/11_06-08b-eng.html

⁴³ DFO (2019). Stock Assessment of Atlantic Cod (*Gadus morhua*) in NAFO Divisions 4X5Y. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/015. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_015-eng.html

⁴⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁵ DFO (2019). Stock Assessment of Witch Flounder (*Glyptocephalus cynoglossus*) in NAFO Divisions 2J3KL. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/053. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_053-eng.html

⁴⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁷ DFO (2018). Terms of Reference. Newfoundland and Labrador Snow Crab Assessment. Regional Peer Review Process - Newfoundland and Labrador Region. February 20–23, 2018, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/02_20-23-eng.html

⁴⁸ DFO (2018). Assessment of Newfoundland and Labrador (Divisions 2HJ3KLNOP4R) Snow Crab. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/024. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_024-eng.html

⁴⁹ DFO (2018). Terms of Reference. Development of a Precautionary Approach Framework for Snow Crab in the NL Region. Regional Peer Review – Newfoundland and Labrador Region. June 6–7, 2018. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/06_06-07b-eng.html

⁵⁰ Mullowney D., Baker K., Pedersen E., & Osborne D. (2018). Basis for a Precautionary Approach and Decision Making Framework for the Newfoundland and Labrador Snow Crab (*Chionoecetes opilio*) Fishery. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/054. iv + 66 p. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_054-eng.html

⁵¹ DFO (2019). Terms of Reference. 2HJ3KLNOP4R Snow Crab Assessment. Regional Peer Review Process - Newfoundland and Labrador Region. February 19–21, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_19-21-eng.html

⁵² DFO (2019). Assessment of Newfoundland and Labrador (Divisions 2HJ3KLNOP4R) Snow Crab. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/041. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_041-eng.html

⁵³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
9	Newfoundland and Labrador	Haddock – 3Ps; Critical		✓2018/19			Ongoing evaluation and potential development of LRPs in 2018/19.			Previously completed (2019)
<p>Details: A CSAS process was held in December 2018 to assess haddock in 3Ps, during which an LRP was established. Details on the LRP and its development are available online in a CSAS report.⁵⁵ In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.⁵⁶</p>										
10	Newfoundland and Labrador	Witch flounder – 3Ps; Uncertain	✓2018/19				Develop LRPs by March 31, 2019.			Previously completed (2019)
<p>Details: A CSAS process was held in December 2017 to assess witch flounder in 3Ps, during which an LRP was established. Details on the LRP and its development are available online in a CSAS report.⁵⁷ In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.⁵⁸</p>										
11	Pacific	Green sea urchin – Pacific Region; Healthy		✓2018/19			Analysis of provisional LRPs in 2018/19 for better alignment with the PA. Ongoing evaluation for fully PA compliant LRP possibly in 2020.			Previously completed (2019)
<p>Details: A CSAS process was held in April 2018 to assess green sea urchin in the Pacific Region. Details on LRPs and their development for two areas included in this stock group are available online in a CSAS report.⁵⁹ In the work plan results for 2018/19 the department also indicates this deliverable is completed; a tangible deliverable is complete and available as a result.⁶⁰</p>										
12	Maritimes	American eel – adult; Uncertain [†]	✓2017/18			Develop LRP by March 31, 2018.				Previously suspended (in 2019)
<p>Details: A framework stock assessment for American eels and elvers was held in October 2016. The proceedings from the process indicate reference points were discussed but does not indicate a final decision was made.⁶¹ Other than the proceedings, no further documentation is available on the CSAS website from the framework process. An assessment of eels in the Maritimes Region occurred in September of 2018. According to the terms of reference, reference points would be discussed, although it is unclear if this included an LRP,⁶² and at this time last year (2019) no reports were available from this process and departmental officials indicated a Science Advisory Report would be published imminently summarizing the assessment based on American eel in the Maritimes Region (elvers and adults; DFO Science, personal communication, June 28, 2019). Last year it was indicated that at the assessment, removal reference points were developed. Spawner per recruit (SPR) analyses were used to define mortality reference points for all directed fisheries and hydroelectric facilities. The mortality rate that results in a 70% loss of spawning biomass relative to the population without losses from human activities (SPR30) was recommended as the limit removal reference (i.e., the maximum acceptable human-induced mortality rate). The mortality rate that results in a 50% loss of spawning biomass would be the target value (SPR50). However, the assessment of current human-induced mortality relative to reference points is limited to the elver fishery. Mortality relative to reference points could not be assessed for large eel fisheries or for large eel mortality following downstream transit through hydroelectric facilities because of data limitations. Due to these data limitations, this deliverable was classified as “suspended” here last year. Given the limited geographic scope of the assessment when compared to the overall size of the panmictic American eel range, it was not possible to develop biomass reference points, the focus had changed to removal</p>										

⁵⁵ DFO (2019). Stock Assessment of Haddock (*Melanogrammus aeglefinus*) in NAFO Subdivision 3Ps. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/007. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_007-eng.html

⁵⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁷ DFO (2018). Stock assessment of Witch Flounder (*Glyptocephalus cynoglossus*) in NAFO Subdivision 3Ps. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/011. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_011-eng.html

⁵⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/ae-ve/audits-verifications/18-19/work-plan-travail-eng.html>

⁵⁹ DFO (2018). Stock Status Update for Green Sea Urchin (*Strongylocentrotus droebachiensis*) in British Columbia and Harvest Options for the Fishery in 2018 to 2021. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/054. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_054-eng.html

⁶⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁶¹ DFO (2017). Proceedings of the Regional Peer Review of the Stock Framework for American Eel (*Anguilla rostrata*) and Elvers. DFO Can. Sci. Advis. Sec. Proc. 2017/048. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2017/2017_048-eng.html

⁶² DFO (2018). Terms of Reference. Assessment of American Eel in the Maritimes Region. Regional Peer Review – Maritimes Region. September 5–7, 2018, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/09_05-07-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			reference points, and no LRP is expected to be developed or published from the September meeting (DFO Science, personal communication, June 28, 2019). The CSAS Science Advisory Report from the September 2018 meeting is now available and discusses the removal reference points and data limitations pertaining to adult eels. ⁶³ The work plan results for 2018/19, in the additional work section, indicates the deliverable to develop a removal reference by March 31, 2019 was completed; a tangible deliverable is complete and available as a result. ⁶⁴ There was a second framework assessment CSAS process held in October of 2019, which was to provide the first step towards a range-wide assessment and a step closer to evaluating the status of eels in Canadian waters (DFO Science, personal communication, June 28, 2019). ⁶⁵ No publications are available from this process yet. The recently published (August 2018) IFMP for elvers in the Maritimes Region indicates that the development of precautionary approach reference points for the elver fishery and for American eel fisheries at all life history stages remains a regional goal. ⁶⁶							
13	Central and Arctic	Arctic char – Cumberland Sound; Uncertain†	✓2017/18	✓2020/21		Develop LRP by March 31, 2018.			To be initiated: Will continue development of LRP in 2020-21.	Delayed ⁶⁷
			Details: Two CSAS processes were held in February 2017 to assess the stock status and sustainable harvest levels for Arctic char in Ijaruvung Lake, Iqalujjuaq Fiord and Irvine Inlet, and Naulinniarvik Lake, Cumberland Sound, Nunavut. Although LRP development was not indicated as a deliverable in the terms of reference for these processes, ^{68,69} departmental officials indicated in 2018 that the LRP for these stocks were developed but that the CSAS documents were not yet posted as they were in the process of completing quality control and translation (N. Schjott, personal communication, June 29, 2018). One of the two expected publications is now available online as a CSAS Science Advisory Report with details on the LRPs. Limit reference points have been developed for Arctic char in Ijaruvung Lake, Iqalujjuaq Fiord and Irvine Inlet, Cumberland Sound, ⁷⁰ but reports are still not available for the Naulinniarvik Lake Arctic char fishery, Cumberland Sound. However, LRPs are not likely to be developed for it, as Naulinniarvik Lake is currently an exploratory fishery (Fisheries and Aquaculture Management, and Science, Arctic region, personal communication, June 23, 2020). This deliverable was previously evaluated as completed by Oceana Canada in the 2019 evaluation as LRPs were developed for three components and because the stock group did not reappear in the 2018/19 or 2019/20 fiscal year work plans, implying it was complete and all components expecting LRPs had them. However, here it is evaluated as delayed given the stock group re-appeared in the 2020/21 fiscal year work plan with the deliverable description indicating LRP development will <i>continue</i> , implying the work was not completed in totality. DFO appropriately indicates that inclusion of this stock group in the 2020/21 fiscal year work plan was based on the expectation that LRP development would further progress for commercial water bodies within the region (Fisheries and Aquaculture Management, and Science, Arctic region, personal communication, June 23, 2020). There are five stock components in Cumberland Sound, and DFO intends to develop LRPs for two further components of these. However, DFO already expects intended work in 2020/21 will be delayed due to staff departures and the impacts of COVID-19 on hiring and community consultation (Fisheries and Aquaculture Management, and Science, Arctic and National Capital regions, personal communication, June 23, 2020).							
14	Maritimes	American eel – elvers; Uncertain†	✓2017/18			Develop LRP by March 31, 2018.				Suspended

⁶³ DFO (2019). Assessment of the Maritimes Region American Eel and Elver Fisheries. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/054. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_054_eng.html

⁶⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁶⁵ DFO (2019). Terms of Reference. Stock-wide Assessment Framework for American Eel: Part 2 – Review of trends and approaches to assessment. National Peer Review – National Capital Region. October 29–31, 2019. Halifax, Nova Scotia. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_29-31-eng.html

⁶⁶ DFO (2018). Elver Integrated Fisheries Management Plan (Evergreen) Maritimes Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/elver-anguille/index-eng.html>

⁶⁷ This deliverable was previously evaluated as completed by Oceana Canada in the 2019 evaluation as LRPs were developed for Arctic char in three areas (Ijaruvung Lake, Iqalujjuaq Fiord and Irvine Inlet) and the stock group did not reappear in the 2018/19 or 2019/20 fiscal year work plans. However, here it is evaluated as delayed given the stock group re-appeared in the 2020/21 fiscal year work plan with the deliverable description indicating LRP development will *continue* and further communications with DFO indicating it expects to develop LRPs for two more areas in the stock group.

⁶⁸ DFO (2017). Terms of Reference. Stock Status and Sustainable Harvest Levels for the Naulinniarvik Lake Arctic Char Fishery, Cumberland Sound, Nunavut. Regional Peer Review – Central and Arctic Region. February 16, 2017, Iqaluit, Nunavut. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2017/02_16-eng.html

⁶⁹ DFO (2017). Terms of Reference. Stock Status and Sustainable Harvest Levels for Arctic Char in Ijaruvung Lake, Iqalujjuaq Fiord and Irvine Inlet, Cumberland Sound, Nunavut. Regional Peer Review – Central and Arctic Region. February 14–15, 2017, Iqaluit, NU. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2017/02_14-15-eng.html

⁷⁰ DFO (2018). Stock Status and Sustainable Harvest Levels for Arctic Char in Ijaruvung Lake, Iqalujjuaq Fiord and Irvine Inlet, Cumberland Sound, Nunavut. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/021. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_021-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: A framework stock assessment for American eels and elvers was held in October 2016. The proceedings from the process indicate reference points were discussed but does not indicate a final decision was made.⁷¹ Other than the proceedings, no further documentation is available on the CSAS website from the framework process. An assessment of eels in the Maritimes Region occurred in September of 2018. According to the terms of reference, reference points would be discussed, although it is unclear if this included an LRP.⁷² At this time last year (2019), no reports were available from this process and departmental officials indicated a Science Advisory Report would be published imminently summarizing the assessment based on American eel in the Maritimes Region (elvers and adults; DFO Science, personal communication, June 28, 2019). It was indicated that at the assessment, removal reference points were developed. Spawner per recruit (SPR) analyses were used to define mortality reference points for all directed fisheries and hydroelectric facilities. The mortality rate that results in a 70% loss of spawning biomass relative to the population without losses from human activities (SPR30) was recommended as the limit removal reference (i.e., the maximum acceptable human-induced mortality rate). The mortality rate that results in a 50% loss of spawning biomass would be the target value (SPR50). Given the limited geographic scope of the assessment when compared to the overall size of the panmictic American eel range, it was not possible to develop biomass reference points, the focus had changed to removal reference points and no LRP was expected to be developed or published from the September meeting (DFO Science, personal communication, June 28, 2019). The CSAS Science Advisory Report from the September 2018 meeting is now available and includes an assessment of current mortality relative to reference points for the elver fishery.⁷³ The work plan results for 2018/19, in the additional work section, also indicate the deliverable to develop a removal reference by March 31, 2019 was completed; a tangible deliverable is complete and available as a result.⁷⁴ There was a second framework assessment CSAS process held in October of 2019, which was to provide the first step towards a range-wide assessment and another step towards evaluating the status of eels in Canadian waters (DFO Science, personal communication, June 28, 2019).⁷⁵ No publications are available from this process yet. Although the rationale provided for the shift in focus away from the LRP towards removal references is appropriate (and there is enough data to evaluate the elver fishery against its removal reference), this deliverable is evaluated as suspended given there is no LRP or further intentions to develop one in the imminent future. The recently published (August 2018) IFMP for elvers in the Maritimes Region indicates that the development of precautionary approach reference points for the elver fishery and for American eel fisheries at all life history stages remains a regional goal.⁷⁶</p>							
15	Maritimes	Lobster – Inshore LFA 34; Healthy		✓2017/18		Work planned to refine LRP. The work is expected to be finalized in the 2018 to 2019 fiscal-year. Following this the IFMP will be updated by March 31, 2020. ⁷⁷				Delayed
			<p>Details: In June 2018 a CSAS Science Response process was held to update the status of lobster in LFA 34. The report published from this process indicates the LRP previously developed (in 2013) was still in use.⁷⁸ A framework stock assessment was on the CSAS schedule website for March 2019, where it was indicated reference points would be refined (N. Schjott, personal communication, June 29, 2018), but this was postponed until September 2019 (N. Schjott, personal communication, June 25, 2019). The terms of reference for the September process indicate that an objective of the meeting was to update existing reference points and develop new reference points for primary indicators, as necessary.⁷⁹ No reports have been published on the CSAS website for the September process yet. Another CSAS process was held in October 2019 to assess the stock. The terms of reference for this process indicate the September</p>							

⁷¹ DFO (2017). Proceedings of the Regional Peer Review of the Stock Framework for American Eel (*Anguilla rostrata*) and Elvers. DFO Can. Sci. Advis. Sec. Proc. 2017/048. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2017/2017_048-eng.html

⁷² DFO (2018). Terms of Reference. Assessment of American Eel in the Maritimes Region. Regional Peer Review – Maritimes Region. September 5–7, 2018, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/09_05-07-eng.html

⁷³ DFO (2019). Assessment of the Maritimes Region American Eel and Elver Fisheries. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/054. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_054_eng.html

⁷⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁷⁵ DFO (2019). Terms of Reference. Stock-wide Assessment Framework for American Eel: Part 2 – Review of trends and approaches to assessment. National Peer Review – National Capital Region. October 29–31, 2019. Halifax, Nova Scotia. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_29-31-eng.html

⁷⁶ DFO (2018). Elver Integrated Fisheries Management Plan (Evergreen) Maritimes Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/elver-anguille/index-eng.html>

⁷⁷ The 2017/18 deliverables statement for this section of the work plan (work plan 1) indicates the IFMP will be updated by March 31, 2019, which contradicts the deliverables statement in the IFMP section of the work plan (work plan 3) for the same fiscal year, where it is stated that the inshore lobster IFMP was to be posted online in 2017/18. This statement here is however consistent with the 2018/19 work plan.

⁷⁸ DFO (2018). Stock Status Update of American Lobster (*Homarus americanus*) in Lobster Fishing Area 34. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/044. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_044-eng.html

⁷⁹ DFO (2019). Terms of Reference. Stock Framework for American Lobster in Lobster Fishing Areas (LFAs) 34 and 35-38. Regional Peer Review – Maritimes Region. September 10-11, 2019. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/09_10-11-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			framework meeting presented a suite of primary, secondary and contextual indicators for use as stock assessment indicators, as well as upper stock and limit reference points. ⁸⁰ The October meeting was intended to assess the stock using the framework, indicators and reference points developed at the September meeting, but no reports have been published yet either. The recently published IFMP for inshore lobster (March 2020), which includes this stock, uses the old primary LRP based on landings, and no LRP based on fishery-independent data is defined for LFA 34. ⁸¹ The IFMP reiterates the intention to explore and/or improve methods to develop biological reference points, which are related to the productivity of lobster stocks. DFO indicates work on the LRP for this stock was completed as part of the new framework assessment and will be included in the pending CSAS report from the September meeting (Fisheries and Aquaculture Management, and Science, Maritimes region, personal communication, June 23, 2020).							
16	Maritimes	Lobster – Inshore LFA 35–38; Healthy		✓2017/18		Work planned to refine LRP. The work is expected to be finalized in the 2018 to 2019 fiscal-year. Following this the IFMP will be updated by March 31, 2020. ²⁹				Delayed
			Details: In September 2018 a CSAS Science Response process was held to update the status of lobster in LFA 34. The report published from this process indicates the LRP previously developed (in 2013) was still in use. ⁸² A framework stock assessment was on the CSAS schedule website for March 2019, where it was indicated reference points would be refined (N. Schjott, personal communication, June 29, 2018), but this was postponed until September 2019 (N. Schjott, personal communication, June 25, 2019). The terms of reference for the September process indicate that an objective of the meeting was to update existing reference points and develop new reference points for primary indicators, as necessary. ⁸³ No reports have been published on the CSAS website for the September process yet. Another CSAS process was held in October 2019 to assess the stock. The terms of reference for this process indicate the September framework meeting presented a suite of primary, secondary and contextual indicators for use as stock assessment indicators, as well as upper stock and limit reference points. ⁸⁴ The October meeting was intended to assess the stock using the framework, indicators and reference points developed at the September meeting, but no reports have been published yet either. The recently published IFMP for inshore lobster (March 2020), which includes this stock, uses the old primary LRP based on landings, and no LRP based on fishery-independent data is defined for LFA 34. ⁸⁵ The IFMP reiterates the intention to explore and/or improve methods to develop biological reference points, which are related to the productivity of lobster stocks. DFO indicates work on the LRP for this stock was completed as part of the new framework assessment and will be included in the pending CSAS report from the September meeting (Fisheries and Aquaculture Management, and Science, Maritimes region, personal communication, June 23, 2020).							
17	Newfoundland and Labrador and National Capital Region	Northern shrimp – SFA 0–7; Critical, Cautious, Healthy, Uncertain		✓2017/18 ✓2018/19 ✓2019/20 ✓2020/21		New assessment model under development which may lead to the review of reference points.	SFA 4–6 only: Ongoing evaluation and potential revision of LRPs in FY 2018-/19.	SFA 4–6 only: Will begin update of LRP in 2019/20.	SFA 4–6 only: ⁸⁶ In progress: Will continue development of LRP in 2020-21.	Delayed
			Details: The 2017/18 fiscal year work plan indicated the deliverable here applied to northern shrimp in SFA 0–7, while subsequent work plans have indicated it applies only to SFA 4–6, areas for which the department is the primary provider of science advice. ⁸⁷ In 2017/18 two CSAS processes were held (in February 2018). The first provided an update of the status of northern shrimp (<i>Pandalus borealis</i>) and striped shrimp (<i>Pandalus montagui</i>) in the Eastern and Western Assessment Zones (EAZ and WAZ, respectively, which combined cover the same areas as the							

⁸⁰ DFO (2019). Terms of Reference. Stock Assessment of American Lobster in Lobster Fishing Area(s) (LFA) 34 and 35-38. Regional Peer Review – Maritimes Region. October 1-2, 2019. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_1-2-eng.html

⁸¹ DFO (2020). Lobster Fishing Areas 27 – 38. Integrated Fisheries Management Plan. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/2019/inshore-lobster-eng.html>

⁸² DFO (2019). Stock Status Update of American Lobster (*Homarus americanus*) in Lobster Fishing Areas 35-38. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/049. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_049-eng.html

⁸³ DFO (2019). Terms of Reference. Stock Framework for American Lobster in Lobster Fishing Areas (LFAs) 34 and 35-38. Regional Peer Review – Maritimes Region. September 10-11, 2019. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/09_10-11-eng.html

⁸⁴ DFO (2019). Terms of Reference. Stock Assessment of American Lobster in Lobster Fishing Area(s) (LFA) 34 and 35-38. Regional Peer Review – Maritimes Region. October 1-2, 2019. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_1-2-eng.html

⁸⁵ DFO (2020). Lobster Fishing Areas 27 – 38. Integrated Fisheries Management Plan. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/2019/inshore-lobster-eng.html>

⁸⁶ In the 2020/21 fiscal year work plan there are also now LRP deliverables for northern shrimp in the WAZ and striped shrimp in the WAZ; see their new records further below.

⁸⁷ DFO provides science advice for SFAs 4, 5 and 6 and the Eastern and Western Assessment Zones (EAZ and WAZ, respectively, which combined cover the same areas as the former SFA 2 and 3). The Northwest Atlantic Fisheries Organization (NAFO) Scientific Council (SC) provides science advice for SFAs 0, 1 and 7. In the 2020/21 fiscal year work plan there are LRP deliverables for SFAs 4–6 and northern and striped shrimp in the WAZ.

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
										former SFAs 2 and 3) and striped shrimp in SFA 4. It does not appear that reference points were adjusted in this process, and they were still missing for striped shrimp in SFA 4 and for both species in the WAZ. ^{88,89} The second process assessed northern shrimp in SFAs 4, 5 and 6, and the documentation produced indicates the values of the reference points were revised slightly in 2018, in accordance with refinements in the biomass estimation method. ⁹⁰ In fiscal year 2018/19 one CSAS process was held (in February 2019) to assess the status of northern shrimp in SFAs 4, 5 and 6, striped shrimp in SFA 4 and both species in the EAZ and WAZ. ⁹¹ Documentation for the EAZ and WAZ ⁹² indicates previously established reference points were utilized for both species in the EAZ, although it was noted these should be utilized with caution. ⁹³ In the WAZ neither species was assessed under a PA framework, but the report indicated that work is underway to establish the PA framework within the next two years. Documentation for SFAs 4, 5 and 6 ⁹⁴ indicates that in 2018/2019 the reference points for northern shrimp in SFA 4 were modified to exclude the Hatton Basin Marine Refuge, which was removed from surveying beginning in 2018, but otherwise the assessment followed the previously established reference point framework first published in 2007. This document indicates that the lack of reference points for striped shrimp in SFA 4 is due to data limitations. The document highlights uncertainty in the appropriateness of the reference points ⁹⁵ but also notes that there was no scientific basis on which to change them, as at the time there was no quantitative model of the resource. It further reiterates the conclusions from the January 2017 process held specifically to review SFA 6 reference points, where it was concluded that the currently used biomass reference points would remain unchanged because of the high level of uncertainties and that lowering them would involve a high amount of risk to the ecosystem and to the resource. ⁹⁶ An updated IFMP was published in November of 2018, and it includes the previously developed LRP for northern shrimp in SFA 4, SFA 5, SFA 6 and EAZ and striped shrimp in EAZ. It also indicates reference points are in the process of being developed for striped shrimp in SFA 4 and both species in the WAZ, and it contains much discussion on the pending revision of the LRP for SFA 6. ⁹⁷ In the work plan results for 2018/19 the department indicated this deliverable was met (commitment or action as defined in the description of deliverables is complete without a tangible deliverable) as of March 31, 2019. ⁹⁸ However, it was obviously not completed as stated, as this deliverable was included again in the 2019/20 work plan. In fiscal year 2019/20, a CSAS process was held in May 2019 with the key objectives for northern shrimp in SFAs 4-7 of reviewing the proposed population models and defining LRPs, consistent with the PA. ⁹⁹ Last year (2019) departmental officials indicated that while a new model was accepted, more work was required (N. Schjott, personal communication, June 25, 2019). An updated LRP was proposed by DFO-Science (Newfoundland and Labrador Region), but it was deemed to be unacceptable for use during CSAS peer-review (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). Consequently, reference points were not determined at the meeting, and their development will occur later (N. Schjott, personal communication, June 25, 2019). There are still no publications available from this meeting to document this progress and decisions. A CSAS Science Response Process (SRP) was held in

⁸⁸ DFO (2018). Update of Stock Status Indicators for Northern Shrimp, *Pandalus borealis*, and Striped Shrimp, *Pandalus montagui*, in the Western and Eastern Assessment Zones, February 2018. DFO Can. Sci. Advis. Sec. Sci. Res. 2018/012. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_012-eng.html

⁸⁹ DFO (2018). Stock Status Update of Striped Shrimp (*Pandalus montagui*) in SFA 4. DFO Can. Sci. Advis. Sec. Sci. Res. 2018/011. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_011-eng.html

⁹⁰ DFO (2018). An Assessment of Northern Shrimp (*Pandalus borealis*) in Shrimp Fishing Areas 4-6 in 2017. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/018. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_018-eng.html

⁹¹ DFO (2018). Terms of Reference. Northern and Striped Shrimp Assessment. Zonal Peer Review – Newfoundland and Labrador, and Central and Arctic Regions. February 12-14, 2019. St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_12-15-eng.html

⁹² DFO (2019). Assessment of Northern Shrimp, *Pandalus borealis*, and Striped Shrimp, *Pandalus montagui*, in the Eastern and Western Assessment Zones, February 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/011. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_011-eng.html

⁹³ Page 21 of the document states "The PA reference points in the EAZ should be viewed with caution and most likely need to be re-evaluated. Reference points were based on the former shrimp fishing areas (SFA2 and SFA3) which are different than the current assessment zones; thus, the biomass levels used to define the reference points may no longer be appropriate. In addition, the survey time series that were used to determine the reference points are much shorter than in other SFAs. For the EAZ, the time series included two years of data which is now not considered comparable with the rest of the series."

⁹⁴ DFO (2019). An Assessment of Northern Shrimp (*Pandalus borealis*) in Shrimp Fishing Areas 4-6 and of Striped Shrimp (*Pandalus montagui*) in Shrimp Fishing Area 4 in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/027. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_027-eng.html

⁹⁵ Page 19 of the document states: "There is uncertainty in the appropriateness of the reference points as it is unknown how the time periods selected to generate proxies (which differ by SFA) relate to the biomass of maximum sustainable yield (BMSY). However, there is no scientific basis on which to change the current reference points as there is no quantitative model of this resource; historical shrimp survey data will be incorporated into models wherever possible."

⁹⁶ DFO (2017). Review of Reference Points Used in the Precautionary Approach for Northern Shrimp (*Pandalus borealis*) in Shrimp Fishing Area 6. DFO Can. Sci. Advis. Sec. Sci. Resp. 2017/009. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2017/2017_009-eng.html

⁹⁷ DFO (2018). IFMP Northern Shrimp and Striped Shrimp – Shrimp Fishing Areas 0, 1, 4-7, the Eastern and Western Assessment Zones and North Atlantic Fisheries Organization (NAFO) Division 3M. Effective 2018. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html>

⁹⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁹⁹ DFO (2019). Terms of Reference. Development of a New Precautionary Approach Framework for Northern Shrimp in the Newfoundland and Labrador Region. Regional Peer Review – Newfoundland and Labrador Region. May 15-17, 2019. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/05_15-17-eng.html

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			January of 2020 to provide an update on northern and striped shrimp in the EAZ and WAZ and striped shrimp for SFA 4. ¹⁰⁰ Reports from this process include status of both species relative to previously developed LRPs for the EAZ but indicate reference points were still not available for striped shrimp in SFA 4 nor for either species in the WAZ. According to the reports, there are no plans to develop reference points for striped shrimp in SFA 4, but the establishment of reference points for both species in the WAZ is planned for 2020 and will be implemented in the 2021 stock assessment. ^{101,102} In February of 2020 a CSAS process was held to assess northern shrimp in SFAs 4-6. Reference points are not mentioned in the terms of reference for the meeting, ¹⁰³ and reports are not yet available from this process. Results for the 2019/20 work plan evaluation indicate this deliverable was delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables (2019/20). ¹⁰⁴ The 2020/21 fiscal year work plan indicates work will continue to develop an LRP for northern shrimp in SFAs 4-6 this fiscal year. However, because DFO internally evaluated this deliverable as delayed pertaining to the 2019/20 deliverable description, and considering this deliverable has appeared in all four fiscal year work plans, it is evaluated as delayed here. DFO indicates modelling work is still ongoing and work continues towards the development of an updated LRP (Fisheries and Aquaculture Management, and Science, National Capital and Newfoundland and Labrador regions, personal communication, June 23, 2020). In the 2020/21 fiscal year work plan there are also now two new deliverables included for LRP development: one for each of the species in the WAZ. These will be evaluated separately next year.							
18	Pacific	Coho salmon – southern inside; Uncertain ^{††}		✓2017/18		Undertake work to refine reference points based on new science information.				Completed
<p>Details: In 2017/18 work was undertaken to refine reference points. A CSAS process was held in September 2017, in part to determine reference points for Canadian Pacific Salmon Treaty southern coho management units. The meeting focused on evaluating the effects of exploitation rate changes on meeting conservation objectives across a range of smolt-to-adult survival rates that can be used to define status across three Pacific Salmon Treaty status categories (low, moderate and abundant) using a range of stock-recruitment (S-R) models that incorporated hatchery smolt-adult survival as a surrogate for population productivity.¹⁰⁵ S-R parameters were derived for the individual Interior Fraser River Conservation Units and the Interior Fraser Coho (IFC) Management Unit (MU) as a whole and the Strait of Georgia (SOG) MU, as represented by the Black Creek indicator stock. But due to a lack of suitable data, no S-R analysis was conducted for the Lower Fraser River MU. Retrospective and forward simulations were completed for the IFC MU and resulted in a set of decision tables that could be used to inform the selection of status benchmarks and management reference points (also known as operational control points) using hatchery survival as an index of productivity. But, due to lack of data, comparable analyses for the SOG and LFR MUs were not possible. The resultant report provides examples to illustrate how the results from the framework could be used to inform the development of management reference points for setting low, moderate and abundant status categories under the Pacific Salmon Treaty, but formal recommendations on reference points to use for management purposes were not provided. The report indicated that the selection of these reference points would require input from government, First Nations and stakeholders on acceptable probabilities of achieving conservation outcomes given the data gaps and uncertainties. In April and May of 2018 DFO held consultations to seek feedback on the approach for identifying reference points (i.e. low, moderate or abundant) and determining corresponding exploitation rate caps for Canadian coho management units.¹⁰⁶ Given the science process could only provide advice on developing reference points and associated exploitation rates for the IFR MU, the engagement process predominantly focused on reviewing the proposed approach for IFR coho.¹⁰⁷ The 2018/2019 annual report of the Wild Salmon Policy implementation plan indicated the development of reference points and associated decision rules were ongoing and on track and that IFMPs will document them.¹⁰⁸ Last year departmental officials indicated a workshop was held in May 2018 to use the science information from the 2017 CSAS process to</p>										

¹⁰⁰ DFO (2020). Terms of Reference. Northern and Striped Shrimp Update for the Eastern and Western Assessment Zones, and Striped Shrimp Update for Shrimp Fishing Area (SFA) 4. Zonal Science Response Process – Newfoundland and Labrador, and Central and Arctic Regions. January 28, 2020. St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/01_28-eng.html

¹⁰¹ DFO (2020). Stock status update of striped shrimp (*Pandalus montagui*) in SFA4. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/016. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_016-eng.html

¹⁰² DFO (2020). Update of stock status indicators for Northern Shrimp, *Pandalus borealis*, and Striped Shrimp, *Pandalus montagui*, in the Western and Eastern Assessment Zones, January 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/014. (Erratum: February 2020). http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_014-eng.html

¹⁰³ DFO (2020). Terms of Reference. Assessment of Northern Shrimp in Shrimp Fishing Areas (SFAs) 4, 5 and 6. Regional Peer Review – Newfoundland and Labrador Region. February 18-20, 2020. St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_18-20-eng.html

¹⁰⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

¹⁰⁵ DFO (2018). Framework for Determination of Pacific Salmon Commission Reference Points for Status Determination and Associated Allowable Exploitation Rates for Select Canadian Southern Coho Salmon Management Units. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/016. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_016-eng.html

¹⁰⁶ DFO (2018). Consultation on the Pacific Salmon Treaty Southern Coho reference points and exploitation rate caps. <http://www.pac.dfo-mpo.gc.ca/consultation/smon/pst-coho-tsp/index-eng.html>

¹⁰⁷ Hall, A. and Semmens, C. 2018. PST Southern Coho Reference Points and Exploitation Rate Caps: Engagement Report. Prepared by ESSA Technologies Ltd. for the Department of Fisheries and Oceans (DFO) and the Pacific Salmon Commission (PSC). v + 18pp.+ Appendices. <https://waves-vagues.dfo-mpo.gc.ca/Library/40712072.pdf>

¹⁰⁸ DFO (2019). Wild Salmon Policy 2018 to 2022 Implementation Plan. Annual Report 2018 to 2019. <http://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2018-2019-eng.html#highlights>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status							
			<p>develop management reference points, which were planned to be incorporated in the 2019/20 IFMP (N. Schjott, personal communication, June 25, 2019). Although this deliverable did not appear in the 2018/19 fiscal year work plan, in the work plan results for 2018/19 the department indicates in the HCR work plan results section that the deliverable (i.e., management reference points will be evaluated and implemented by March 31, 2019) is completed with a tangible deliverable that is available.¹⁰⁹ However, in the additional work section it indicates the deliverable (i.e., “undertake work to refine reference points based on new science information”) was not completed but only met; commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable. The 2019/20 Wild Salmon Policy implementation plan report confirms that the consultations on revised reference points and exploitation rate caps for IFR coho were completed and documented in the 2019/20 Southern BC salmon IFMP.¹¹⁰ The consultation report revealed little support for the proposed approach as is, and changes were recommended. The 2019/20 IFMP does not include an LRP for any coho salmon stocks; only mixed-stock chum fisheries in Johnstone Strait have an LRP documented.¹¹¹ However, the IFMP section pertaining to the precautionary approach (section 2.6) indicates that Wild Salmon Policy benchmarks of biological status will inform the development of a precautionary approach to management of salmon resources, that benchmarks had been reviewed for conservation units of several of the southern inside coho stocks (Interior Fraser River, Georgia Strait Mainland, East Vancouver Island) and that consultations were held to seek feedback on the approach for identifying reference points (i.e. low, moderate or abundant) and determining corresponding exploitation rate caps for Canadian coho management units.¹¹² Table 13.3-1 in the IFMP identifies Pacific Salmon Treaty abundance-based exploitation rate limits on coho salmon stocks in fisheries harvesting southern BC coho in the low, moderate and abundant categories that appear to align with feedback obtained during consultation focused on the IFR MU, and that differ from the same table included in the previous IFMP.¹¹³ Management reference point work appears to have been completed, as indicated in the deliverable description, although these appear to be Wild Salmon Policy benchmarks of biological status, not an LRP as indicated in the work plan title in which the deliverable was included. Here the deliverable is evaluated as completed, given the work in the deliverable description was completed. It could be clarified whether the low limits will function as an LRP, and if so, they should be identified as such and details on them included in section 2.6 outlining the precautionary approach.</p>														
19	Central and Arctic	Arctic char – Jayko Lake and Halovik River; Healthy [†]	✓2018/19				Develop LRPs by March 31, 2019.			Delayed							
			<p>Details: In fiscal 2016/17 (three years before this deliverable was created), work was undertaken to develop reference points. A CSAS process was held in January 2017, in part to determine reference points for Arctic char in Jayko and Halovik rivers.¹¹⁴ Last year it was indicated that the results from the CSAS process were available for use by Resource Management (DFO Science, personal communication, August 1, 2019) but were still not available online. In the work plan results for 2018/19 the department indicates this deliverable is complete, with a tangible deliverable available.¹¹⁵ However, it was not found in this evaluation. The IFMP for Arctic char in Cambridge Bay is effective from 2014 and was published in 2015,¹¹⁶ prior to the 2017 CSAS process. The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SSF) indicates an interim LRP has been established for the aggregate fishery (standing biomass value of 207 metric tonnes for the combined fishery) and that it should be re-examined and revised as new information is obtained.¹¹⁷ However, it cites a Science Advisory Report published in 2015 from a 2011 CSAS process,¹¹⁸ so this appears to be the old LRP. Responses to other questions in the SSF indicate that biomass estimates for Halokvik and Jayko rivers are to be published soon.¹¹⁹ DFO indicates that LRPs were updated at the 2017 CSAS process and that a CSAS report is being prepared for publication, which is expected to occur in July 2020 (Fisheries and Aquaculture Management, and Science, Arctic Region, personal communication, June 23, 2020).</p>														

¹⁰⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹¹⁰ DFO (2020). Wild Salmon Policy 2018 to 2022 Implementation Plan: Annual Report 2019 to 2020. <http://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2019-2020-eng.html>

¹¹¹ DFO (2019). Pacific Region Final Integrated Fisheries Management Plan. June 1, 2019 - May 31, 2020. Salmon. Southern BC. <https://waves-vagues.dfo-mpo.gc.ca/Library/40799104.pdf>

¹¹² DFO (2018). Consultation on the Pacific Salmon Treaty Southern Coho reference points and exploitation rate caps. <http://www.pac.dfo-mpo.gc.ca/consultation/smon/pst-coho-tsp/index-eng.html>

¹¹³ DFO (2018). Integrated Fisheries Management Plan. June 1, 2018-May 31, 2019. Salmon. Southern B.C. <https://waves-vagues.dfo-mpo.gc.ca/Library/40694306.pdf>

¹¹⁴ DFO (2017). Terms of Reference. Estimated Abundance and Sustainable Harvest Levels for the Jayko and Halokvik (30 Mile) Rivers in the Cambridge Bay Commercial Fishery, 2010–2015. Regional Peer Review – Central and Arctic Region. January 24–26, 2017, Winnipeg, MB. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2017/01_24-26b-eng.html

¹¹⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹¹⁶ DFO (2015). Cambridge Bay Arctic Char Commercial Fishery (Summary Version) – Effective 2014. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/arctic-char-omble-chev/arctic-char-omble-chev-eng.html>

¹¹⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹¹⁸ DFO (2014). Precautionary reference points consistent with the fishery decision-making framework for Arctic Char (*Salvelinus alpinus*) in Cambridge Bay, Nunavut. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2014/051. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2014/2014_051-eng.html

¹¹⁹ DFO (2019). Sustainability surveys data and summaries [see 2018 results .csv]. <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
20	Gulf	Sea scallop – southern Gulf of St. Lawrence (SFA 21a, b, c, 22, 23, 24); Uncertain		✓2018/19	✓2019/20		Stock assessment scheduled for May 2018. Present stock assessment and reference points to industry.	Will continue development of LRP in 2019/20.		Suspended
<p>Details: A CSAS process was held in October 2018 where scientists attempted to develop reference points for sea scallops in the southern Gulf of St. Lawrence. It was determined that there is insufficient data available to define abundance and removal rate reference points as per the precautionary approach and that there are currently no indicators that could be used to signal if a significant unexpected change in stock status has occurred.¹²⁰ The report does discuss potential indicators that could be used to monitor the status and productive capacity of the stock and suggests that annual surveys of scallop beds that contribute the most to the fisheries effort and landings be considered to develop these. But the report does not indicate whether these would be pursued. In the work plan results for 2018/19 the department does not provide an overall status determination for this deliverable but does indicate the stock assessment was completed and reference points delayed. This deliverable was repeated in the 2019/20 work plan. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables for 2019/20.¹²¹ There were no CSAS processes on the schedule for this stock in 2019 and none yet scheduled for 2020. DFO confirms LRPs could not be determined during the last CSAS process (October 2018), but they are continuing to analyse and expand knowledge of the stock status, based on recommendations from the review (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). Because this is a data-deficient stock, they are still in data-acquisition mode for the next few years to develop the LRP and are investing in new monitoring that will begin in 2021/2022 (Science, National Capital Region, personal communication, June 23, 2020). Given that it will take time to collect enough data for use in developing an LRP, that data collection will not start until next year, and that this deliverable is not included in the 2020/21 work plan, this year this deliverable is evaluated as suspended despite DFO internally evaluating it as delayed.</p>										
21	Maritimes	Dogfish – Atlantic Canada 4VWNX-5; Cautious		✓2018/19			Update to limit reference points (for Atlantic Canada), if Science determines that a change needs to be made (LRP will be reviewed by Science in 2018/19).			Completed
<p>Details: Two CSAS processes were held in 2018 pertaining to dogfish in Atlantic Canada. The final part of a framework assessment that began in 2017 was held in June 2018, reviewing modelling approaches, and a second CSAS process was held in fall 2018 to update the status of the stock. The June meeting terms of reference indicate reference points were to be revised,¹²² but no documents are available from it yet. Last year, departmental officials indicated that the framework assessment considered data to 2015 and a new modelling approach, but the proposed Canadian model was rejected (DFO Science, personal communication, June 28, 2019). The U.S. regularly undertakes assessments of the Northwest Atlantic spiny dogfish population to provide advice for their directed fishery, and the index of abundance (adult females) uses data collected on the U.S. side of the Hague line. During the fall 2018 CSAS process it was agreed that until a joint or Canadian modelled approach could be developed, relying on the U.S. assessment would be more informative than reviewing the survey index of adult female abundance without the context of a population model. Adopting the U.S. reference points was deemed appropriate under the Canadian precautionary approach framework. The U.S. spawning stock biomass target (SSBtarget) was used as the USR, given that SSBtarget represents a proxy for adult female biomass at maximum sustainable yield (MSY) under the U.S. assessment model. The USR becomes 159,288 mt. The LRP is the U.S. SSBthreshold value, calculated as 50% of the USR, with a value of 79,644 mt. Using these values places dogfish in the cautious zone since 2015 (DFO Science, personal communication, June 28, 2019). The CSAS schedule confirms processes were held on December 11, 2018, and February 13, 2019 with the</p>										

¹²⁰ DFO (2019). Fishery and Stock Status of the Sea Scallop (*Placopecten magellanicus*) from the Southern Gulf of St. Lawrence to 2016. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/006. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_006-eng.html

¹²¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

¹²² DFO (2018). Terms of Reference. Northwest Atlantic Spiny Dogfish Framework Part 2: Review of Modeling Approaches and Assessment. Regional Advisory Process – Maritimes Region. June 27–28, 2018. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/06_27-28-eng.html

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			objective of reviewing and updating proxy biological reference points for Northwest Atlantic spiny dogfish and to evaluate the status of the stock. ¹²³ There is now a Science Advisory Report available that documents this new approach to the LRP for the stock. ¹²⁴ In the work plan results for 2018/19 the department also indicates this deliverable is complete, with a tangible deliverable available. ¹²⁵							
22	Newfoundland and Labrador	Greenland halibut (turbot) – 2+3KLMNO; Uncertain	✓2018/19				Ongoing evaluation and potential development of LRPs in 2018/19. Development of exceptional circumstances protocol (within NAFO) to monitor performance of recently adopted HCR.			Delayed
<p>Details: The recently published (2019) IFMP including this stock indicates it is assessed by the Northwest Atlantic Fisheries Association (NAFO).¹²⁶ The annual report from the NAFO Scientific Council meeting for 2018 indicated precautionary approach reference points had not been determined for this stock at this time.¹²⁷ During last year's evaluation, departmental officials indicated that while technically it is correct that no reference points have been defined, this is largely a reporting issue as the stock is managed using a harvest control rule (HCR; see entry for this stock in Table 4 below) that has been tested by management strategy evaluation (MSE). The testing performance statistics used in the MSE included reference points based on maximum sustainable yield (MSY; including $0.3 * B_{MSY}$ and $0.3 * B_{0.1}$ as B_{LIM} proxies for two models; DFO Science, personal communication, June 28, 2019). The exceptional circumstance protocol to monitor performance of the HCR has been developed, adopted and documented.¹²⁸ The 2018 results of the DFO Sustainability Survey for Fisheries indicates there are no precautionary approach components for this stock and that reference points are not yet defined outside of the MSE.¹²⁹ The 2019 annual report from the NAFO Scientific Council meeting indicated that precautionary approach reference points have not been determined for this stock but will be investigated during the update of the assessment model in 2020.¹³⁰ In the work plan results for 2018/19 the department indicated this deliverable is met; the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable available.¹³¹ DFO indicates that a NAFO B_{LIM} for this stock was intended to be discussed at the June 2020 NAFO Scientific Council meeting, as the Scientific Council planned to look at adopting official reference points from the MSE exercise (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). Given that the stock is much higher than the B_{LIM} proxies used within the MSE, it was not a NAFO Scientific Council priority to decide on that specific point this year due to time constraints, but the intent is to do so at a future meeting (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). Each year indices are compared to expected values following the path simulated under the HCR in the MSE. If stock size estimates fall below the expected path, then exceptional circumstances will be triggered, and this should happen well before the stock reaches the B_{LIM} proxy values used in the MSE (Science, National Capital Region, personal communication, June 23, 2020). However, the stock still lacks official reference points, either domestic precautionary approach reference points or a NAFO B_{LIM}, the latter of which may come in 2020, so it remains evaluated as delayed here.</p>										

¹²³ DFO (2019). Terms of Reference. Stock Assessment of Northwest Atlantic Spiny Dogfish. Regional Peer Review Process – Maritimes Region. December 11, 2018, and February 13, 2019. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_13-eng.html

¹²⁴ DFO (2020). Assessment of Spiny Dogfish in the Northwest Atlantic. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/001. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_001-eng.html

¹²⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹²⁶ DFO (2019). IFMP Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

¹²⁷ NAFO (2018). Northwest Atlantic Fisheries Organization Report of the Scientific Council Meeting 01-14 – June 2018, Halifax, Nova Scotia. Serial No. N6849. NAFO SCS Doc. 18-19. <https://www.nafo.int/Portals/0/PDFs/sc/2018/scs18-19.pdf>

¹²⁸ NAFO (2018). Northwest Atlantic Fisheries Organization Serial No. N6888 NAFO/COM-SC Doc. 18-05. <https://www.nafo.int/Portals/0/PDFs/COM-SC/2018/com-scdoc18-05.pdf>

¹²⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹³⁰ NAFO (2019). Northwest Atlantic Fisheries Organization Report of the Scientific Council Meeting 31 May-13 June 2019, Halifax, Nova Scotia. Serial No. N6966. NAFO SCS Doc. 19/20. <https://www.nafo.int/Portals/0/PDFs/sc/2019/scs19-20.pdf>

¹³¹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
23	Newfoundland and Labrador	Lumpfish – 3KLPs; Uncertain		✓2018/19 ✓2019/20			Ongoing evaluation and potential development of LRPs in 2018/19.	Will continue revision of LRP in 2019-20.		Suspended
<p>Details: A CSAS process was held in March 2019 to conduct a recovery potential assessment of lumpfish in the Atlantic Ocean. One of the objectives of this meeting was identifying recovery targets.¹³² No documentation is yet available from this process. In the work plan results for 2018/19 the department indicates this deliverable is met; the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable available.¹³³ Yet the 2019/20 work plan indicated work would continue to revise the LRP. The 2019/20 work plan results indicate an “N/A” for this deliverable; the commitment or action as defined in the description of deliverables (2019/20) was not pursued for reasons including it no longer being required.¹³⁴ There were no other CSAS processes related to this stock in fiscal 2019/20, and none are currently scheduled for fiscal 2020/21. DFO indicates that work on the LRP does continue, using various modelling approaches to help refine the proposed reference points that arose from the Recovery Potential Assessment and that an update will be provided at the next lumpfish assessment meeting (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador and National Capital regions, personal communication, June 23, 2020). However, considering the next CSAS meeting is not scheduled, the 2019/20 work plan result of “N/A” and the lack of inclusion in subsequent work plans, this deliverable is evaluated as suspended here.</p>										
24	Newfoundland and Labrador	Monkfish – 3LNOPs; Cautious		✓2018/19 ✓2019/20			Ongoing evaluation and potential development of LRPs in 2018/19.	Will continue revision of LRP in 2019-20.		Suspended
<p>Details: According to the recently published (2019) IFMP,¹³⁵ this stock has an LRP. It was established at a June 2017 CSAS process.¹³⁶ In the work plan results for 2018/19 the department indicated this deliverable is met; the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable available.¹³⁷ Yet the 2019/20 work plan indicated work would continue to revise the LRP, and last year departmental officials indicated this work is continuing (DFO Science, personal communication, June 28, 2019). The 2019/20 work plan results indicate an “N/A” for this deliverable; the commitment or action as defined in the description of deliverables (2019/20) was not pursued for reasons including no longer being required.¹³⁸ There were no other CSAS processes related to this stock in fiscal 2019/20, and none are currently scheduled for fiscal 2020/21. DFO confirms that no work has been proposed on an LRP for monkfish in 2020/21 but that science work is ongoing to refine and model monkfish (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador and National Capital regions, personal communication, June 23, 2020). But results are not expected until the next assessment, which at the 2017 CSAS meeting was proposed to be every five years. If Fisheries Management wants an assessment in 2022/23, then progress on modelling and reference points will be presented at that time (Science, National Capital Region, personal communication, June 23, 2020). In previous evaluations, this deliverable was evaluated as delayed, despite a new LRP resulting from the 2017 CSAS meeting, because it was included in the work plans for the first time in the 2018/19 fiscal year work plan and repeated in the 2019/20 fiscal year work plan. However, given the details concerning the timeline for an assessment that may or may not happen, the 2019/20 work plan result of “N/A” and lack of inclusion in subsequent work plans, it is now evaluated as suspended here.</p>										
25	Newfoundland and Labrador	Thorny skate – 3LNOPs; Cautious		✓2018/19			Ongoing evaluation and potential development of LRPs in 2018/19.			Suspended

¹³² DFO (2019). Terms of Reference. Recovery Potential Assessment – Lumpfish, Atlantic Ocean. Zonal Peer Review Meeting – Newfoundland and Labrador, Maritimes, Gulf, Quebec, Central and Arctic Regions. March 12–13, 2019, St. John’s, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/03_12-13-eng.html

¹³³ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/ae-ve/audits-verifications/18-19/work-plan-travail-eng.html>

¹³⁴ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹³⁵ DFO (2019). IFMP Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

¹³⁶ DFO (2018). Stock Assessment of Monkfish in NAFO Division 3LNO and Subdivision 3Ps. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/010. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_010-eng.html

¹³⁷ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹³⁸ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: Thorny skate in 3LNO and 3Ps are assessed by NAFO¹³⁹ and managed as thorny skate in 3LNO¹⁴⁰ and together with other skates in 3Ps.¹⁴¹ Within 3LNO there is a NAFO B_{LIM}.¹⁴² In the work plan results for 2018/19 the department indicated this deliverable is met; the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable available.¹⁴³ Last year departmental officials indicated that work will be ongoing during 2019/2020 to develop a quantitative model and precautionary approach framework that is anticipated to be presented at the NAFO meeting in June 2020, if progress is made (DFO Science, personal communication, June 28, 2019). The report from the June 2019 NAFO scientific council meeting includes updated information on abundance and biomass indices to 2018 and a recommendation that further work be conducted on development of a quantitative stock model, indicated as ongoing. The next full assessment of this stock is planned for 2020.¹⁴⁴ DFO confirms thorny skate was assessed at the June 2020 NAFO Scientific Council (SC) meeting but says an accepted analytical model was not possible at this time. Exploratory work is ongoing on the development of a model for this stock to possibly refine the current B_{LIM} that was adopted in 2015 (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador and National Capital regions, personal communication, June 23, 2020). This deliverable is evaluated as suspended here because there is no accepted analytical model for use in revisions to the B_{LIM}, and although DFO indicates exploratory work is ongoing for its development and <i>possible</i> revisions to the current B_{LIM}, it has not been carried forward in the 2019/20 or 2020/21 fiscal year work plans.</p>							
26	Newfoundland and Labrador	Capelin – 23KLPs; Uncertain		<ul style="list-style-type: none"> ✓2018/19 ✓2019/20 ✓2020/21 			Ongoing evaluation and potential development of LRP in 2018/19.	Will continue revision of LRP in 2019/20.	In progress: Will continue development of LRP in 2020-21.	Ongoing
			<p>Details: A CSAS process was held in March 2018 to assess capelin in 2+3K, but reference point development was not part of the terms of reference,¹⁴⁵ and therefore an LRP was not identified from the process.¹⁴⁶ Another assessment was conducted in March 2019, but again reference points were not part of the terms of reference¹⁴⁷ and therefore were not included in the resultant report.¹⁴⁸ The recently published (2019) IFMP does not mention any reference points in place for this stock or any plans to develop them.¹⁴⁹ In the work plan results for 2018/19 the department indicated this deliverable is met; the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable available.¹⁵⁰ Yet, as indicated in the 2019/20 work plan, work towards LRP revision (or development, since there currently is no LRP) was expected to continue. In March 2020, a CSAS process was held to assess the stock, but again reference points were not part of the terms of reference¹⁵¹ and are therefore not expected in the reports, which are not yet available. The work plan results for the 2019/20 work plan indicate the deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.¹⁵² As indicated in the 2020/21 work plan, work towards LRP development is expected to continue in this fiscal year. DFO confirms that work continues towards developing an LRP for capelin but says the timeline is not firm. However, they expect development of an LRP within four years (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). New mid-water trawl surveys are planned to leverage the acoustic data to obtain an “absolute” biomass estimate of capelin in 2J3KL, which will help support the development of the LRP (Science, National Capital Region, personal communication, June 23, 2020).</p>							

¹³⁹ Simpson, M.R., Miri, C.M. & Collins, R.K. (2018). Assessment of Thorny Skate (*Amblyraja radiata* Donovan, 1808) in NAFO Divisions 3LNO and Subdivision 3Ps. Scientific Council Meeting. Serial No. N6811NAFO SCR Doc. 18/027. June 2018. <https://www.nafo.int/Portals/0/PDFs/sc/2018/scr18-027.pdf>

¹⁴⁰ DFO (2019). IFMP Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

¹⁴¹ DFO (2016). IFMP Groundfish (NAFO) Division 3Ps – Updated 2016. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-div3p-2016-eng.html>

¹⁴² NAFO (2018). Thorny Skate in Divisions 3LNO and Subdiv. 3Ps – Advice June 2018 for 2019–2020. SC 01–14, June 2018. <https://www.nafo.int/Portals/0/PDFs/Advice/2018/Tskate3LNO.pdf>

¹⁴³ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹⁴⁴ NAFO (2019). Northwest Atlantic Fisheries Organization Report of the Scientific Council Meeting 31 May–13 June 2019, Halifax, Nova Scotia. Serial No. N6966. NAFO SCS Doc. 19/20. <https://www.nafo.int/Portals/0/PDFs/sc/2019/scs19-20.pdf>

¹⁴⁵ DFO (2018). Terms of Reference. Status of Subarea 2 and Divisions 3KL Capelin. Regional Peer Review, Newfoundland and Labrador Region. March 7–8, 2018, St. John’s NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/03_07-08-eng.html

¹⁴⁶ DFO (2018). Assessment of Capelin in SA2 and Divs. 3KL in 2017. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/030. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_030-eng.html

¹⁴⁷ DFO (2019). Terms of Reference. Assessment of Divisions 2J+3KL Capelin. Regional Peer Review - Newfoundland and Labrador Region. March 19–21, 2019, St. John’s, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/03_19-21-eng.html

¹⁴⁸ DFO (2019). Assessment of 2J3KL Capelin in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/048. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_048-eng.html

¹⁴⁹ DFO (2019). Capelin Newfoundland & Labrador Region 2+3 (Capelin Fishing Areas 1-11). <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/capelin-area1-11-zone-capelan/capelin-capelan-2018-eng.html>

¹⁵⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹⁵¹ DFO (2020). Terms of Reference. Assessment of Divisions 2J+3KL Capelin. Regional Peer Review - Newfoundland and Labrador Region. March 11–13, 2020, St. John’s, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/03_11-13-eng.html

¹⁵² DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
27	Quebec	Snow crab – coastal (12A, 12B, 12C, 13, 14, 15, 16, 16A, 17); Uncertain	✓2019/20 ✓2020/21	✓2018/19			Preliminary work on the development of reference points will be re-examined and a new analysis of the dynamics of abundance cycles will be performed on units where biological information is more complete (i.e., Area 17). The analysis will be used to define the indicators used to determine reference points. The reference points will be determined in 2019/20.	Will complete the development of LRP in 2019-20.	In progress: Will continue development of LRP in 2020-21.	Delayed
<p>Details: A CSAS process was held in February 2018 to assess snow crab in the estuary and northern Gulf of St. Lawrence, but reference point development was not part of the terms of reference.¹⁵³ nor, as expected, do LRPs appear in the resultant reports from the process.¹⁵⁴ Another assessment was conducted in February 2019, but again reference points were not part of the terms of reference¹⁵⁵ and therefore are not in the resultant report.¹⁵⁶ In the work plan results for 2018/19 the department indicated this deliverable was delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables (2018/19).¹⁵⁷ As indicated in the 2019/20 work plan, work towards LRP revision was expected to be ongoing last year, and departmental officials indicated a coordination meeting was anticipated in August 2019 to facilitate LRP development (N. Schjott, personal communication, June 25, 2019). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the precautionary approach components for this are currently under development, with an implementation target of 2020/2021.¹⁵⁸ The stock was most recently assessed in February 2020, but again reference point development was not part of the terms of reference.¹⁵⁹ Reports from this process are not yet available. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).¹⁶⁰ The 2020/21 fiscal year work plan indicates work will continue towards LRP development in this fiscal year. DFO confirms that work has indeed begun on the science side and will continue this year, depending on available resources (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020). However, considering this deliverable was indicated for completion last year (2019/20) and assessed as delayed by DFO in the 2018/19 and 2019/20 work plan evaluations, it remains evaluated as delayed here.</p>										

¹⁵³ DFO (2018). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 13–14, 2018, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/02_13-14-eng.html

¹⁵⁴ DFO (2018). Assessment of the Estuary and Northern Gulf of St. Lawrence (Areas 13 to 17, 12A, 12B, 12C and 16A) Snow Crab Stocks in 2017. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/047. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_047-eng.html

¹⁵⁵ DFO (2019). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review - Quebec Region. February 12–13, 2019, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_12-13-eng.html

¹⁵⁶ DFO (2019). Assessment of the Estuary and Northern Gulf of St. Lawrence (Areas 13 to 17, 12A, 12B, 12C and 16A) Snow Crab Stocks in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/047. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_047-eng.html

¹⁵⁷ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

¹⁵⁸ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁵⁹ DFO (2020). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 11–2, 2020, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_11-12-eng.html

¹⁶⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
28	Quebec	Atlantic halibut – 4RST; Uncertain	✓2019/20 ✓2020/21					Will complete the development of LRP in 2019-20.	In progress: Will continue development of LRP in 2020-21.	Delayed
<p>Details: According to the CSAS schedule website, in fiscal year 2019/20 there were no CSAS processes pertaining to this stock. The stock was last assessed in February 2019, at which time the terms of reference indicate an LRP was to be developed.¹⁶¹ Reference points were not developed at the meeting, but the intention to develop them over the “medium term” was mentioned in the resultant Science Advisory Report.¹⁶² The proceedings from the meeting indicate participants agreed that existing research indices (DFO bottom trawl RV surveys and sentinel survey) are useful and have potential in determining reference points for the precautionary approach.¹⁶³ It also identified reference points and the precautionary approach as areas where effort will be invested. According to the advisory report, the stock will next be assessed in 2021 and there was no intention to assess it in the intervening year (2020). The stock does not currently have an analytical assessment model and instead is assessed using trends in survey indices (two DFO bottom trawl RV surveys and sentinel survey). A longline survey and tagging program for the entire Gulf of St. Lawrence was initiated as a collaboration between DFO and industry in 2017 and should provide a more complete survey dataset (i.e., more appropriate for use as an index of abundance than bottom trawl survey for this species) to use in development of an analytical model. It is unclear if this is the reason reference points were not developed previously and deferred to the “medium” term. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed the by deadline date as indicated in the description of deliverables (2019/20).¹⁶⁴ The 2020/21 fiscal year work plan indicates work will continue towards LRP development in this fiscal year. DFO confirms that work has begun on the science side and will continue this year. A proposal for an LRP is expected to be presented at the next stock assessment in the winter of 2021 using the available mobile survey data (Fisheries and Aquaculture Management, and Science, Quebec and National Capital regions, personal communication, June 23, 2020). However, considering this deliverable was indicated for completion last year (2019/20), it is evaluated as delayed here.</p>										
29	Central and Arctic	Greenland halibut – Cumberland Sound; Uncertain	✓2019/20					Will complete the development of LRP in 2019-20.		Delayed
<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the Greenland halibut stock in the Cumberland Sound Turbot Management Area (CSTMA) is considered to be recruited from the Davis Strait stock and that adults appear resident in the management area and thus isolated from the spawning stock of origin.¹⁶⁵ It has been hypothesized that little to no spawning occurs in the management area. There is currently no assessment for the Greenland halibut stock in the CSTMA, but the survey respondent indicated a stock assessment was planned for fall 2019. The CSAS schedule website indicates a CSAS process was held in November 2019, but reference points were not mentioned in the terms of reference for the meeting.¹⁶⁶ There are no reports published yet from this process. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).¹⁶⁷ DFO confirms that stock status was determined at the November 2019 CSAS process and that the results will be available when the Science Advisory Report is published (Fisheries and Aquaculture Management, and Science, Arctic Region, personal communication, June 23, 2020).</p>										
30	Pacific	Red sea urchin – Pacific Region; Healthy	✓2019/20					Will complete the development of LRP in 2019-20.		Completed
<p>Details: According to the CSAS schedule website, in fiscal year 2019/20 there were no CSAS processes pertaining to red sea urchin (RSU) in the Pacific. The stock was last assessed in February 2019 and specifically included identification of candidate reference points in the title of the process. The resultant Science Advisory Report included details on provisional reference</p>										

¹⁶¹ DFO (2019). Terms of Reference. Assessment of the Gulf of St. Lawrence (4RST) Atlantic halibut. Regional Peer Review – Quebec Region. February 18–19, 2019, Mont-Joli, Quebec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_18-19-eng.html

¹⁶² DFO (2019). Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/038. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_038-eng.html

¹⁶³ DFO (2019). Proceedings of the Regional Peer Review of the Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut. Can. Sci. Advis. Sec. Proc. Ser. 2019/013. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2019/2019_013-eng.html

¹⁶⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

¹⁶⁵ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁶⁶ DFO (2019). Terms of Reference. Stock Assessment of the Cumberland Sound Greenland Halibut (*Reinhardtius hippoglossoides*) in 2019. Regional Peer Review – Central and Arctic Region, November 25–27, 2019, Pangnirtung, NU. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/11_25-27-eng.html

¹⁶⁷ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>points and recommends a new LRP and USR (0.3 mature RSU/m² and 0.6 mature RSU/m², on RSU habitat, respectively; mature RSU are defined as ≥ 50 mm test diameter and RSU habitat is defined as hard substrate larger than gravel (>0.25 cm) where mud is not the predominant substrate).¹⁶⁸ However, the 2019/20 IFMP indicates there is currently no limit or upper stock reference points in place for the commercial Red Sea Urchin fishery in BC.¹⁶⁹ It does note the February 2019 process occurred (but not in the context of reference point development), that the research was accepted and that recommendations from the report will be incorporated into the management of the fishery starting next season after further consultation with First Nations and industry. The 2019/20 work plan results indicate this deliverable was completed; a tangible deliverable is complete and available as a result.¹⁷⁰ Given that the LRP is documented in a CSAS report and DFO policy indicates LRPs are established by science through a peer review process,¹⁷¹ despite the LRP not being documented in the IFMP, here it is assumed it will be adopted by management and this deliverable has been evaluated as completed. DFO confirmed that the LRP is considered to be in place but that due to the lack of a long-term monitoring program, it is currently difficult to assess the status of stock against the LRP. DFO Science is currently developing a long-term monitoring program that will allow the assessment of stock status against reference points (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).</p>							
31	Pacific	Albacore tuna – north Pacific; Healthy		✓2019/20	✓2020/21			Will begin update of LRP in 2019-20.	In progress: Canada will continue update of LRP with Regional fisheries management organisations (RFMOs).	Ongoing
<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the LRP is the only precautionary approach component established.¹⁷² DFO coordinates management of this stock with the USA under the Pacific Albacore Tuna Treaty and with multiple other nations under the Inter-American Tropical Tuna Commission and the Western and Central Pacific Fisheries Commission. The survey results indicate that the LRP is defined as 20%SSB_{CURRENT} at F=0 (20% of dynamic female spawning biomass at the unfished state) and that for 2015, the most recent year of data used in the 2017 stock assessment, the LRP was 32,614t. The most recent IFMP (2019/20) indicates the stock is assessed approximately every three years by the Albacore Working Group (ALBWG), part of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC).¹⁷³ The IFMP outlines several uncertainties that are affecting the ability of the ALBWG to assess the utility of biological reference points for North Pacific albacore and outlines several research priorities to address the uncertainties. It also indicates that the ALBWG is working to advance a Management Strategy Evaluation (MSE) for North Pacific Albacore tuna that will evaluate possible target reference points and alternative harvest control rules, and it supports the application of the precautionary approach at the international level. According to the IFMP, management objectives have been established and a suite of candidate reference points have been proposed through three Albacore Tuna MSE workshops involving managers, scientists and stakeholders. The working group has been working on evaluation of performances of these proposed biological reference points and harvest control rules through the MSE processes. The working group met from February 26 to March 4, 2019, where a working paper with the results of the first round of modelling was presented. The working paper included limit and threshold biomass reference points.^{174,175} The 2019/20 work plan results indicate this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.¹⁷⁶ A stock assessment was conducted in April 2020 by webinar by the ALBWG. The results of the stock assessment will be finalized by the ISC at their annual meeting in July 2020, and in winter 2021 the second round of MSE modelling is scheduled to be reviewed at the 5th Albacore MSE workshop (Fisheries and Aquaculture Management, and Science, Pacific and National Capital regions, personal communication, June 23, 2020). The 2020/21 fiscal year work plan indicates Canada will continue the update of the LRP with regional fisheries management organisations this fiscal year. This will be accomplished through the continuation of the MSE process (Science, National Capital Region, personal communication, June 23, 2020).</p>										

¹⁶⁸ DFO (2019). The identification of provisional reference points and harvest rate options for the commercial Red Sea Urchin (*Mesocentrotus franciscanus*) fishery in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/036. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_036-eng.html

¹⁶⁹ DFO (2019). Pacific Region Integrated Fisheries Management Plan Red Sea Urchin. August 1, 2019 to July 1, 2020. <https://waves-vagues.dfo-mpo.gc.ca/Library/40797879.pdf>

¹⁷⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

¹⁷¹ DFO (2009). A Fishery Decision-making Framework Incorporating the Precautionary Approach. <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.htm>

¹⁷² DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁷³ DFO (2020). Pacific Region Integrated Fisheries Management Plan. April 1, 2019 – March 31, 2020. Albacore Tuna. <https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf>

¹⁷⁴ Tommasi, D. and Teo, S. (2020). Summary of Results for the North Pacific Albacore Tuna (*Thunnus alalunga*) Management Strategy Evaluation. http://isc.fra.go.jp/pdf/ALB/ISC19_ALB_1/ISC19-ALBWG-01_01.pdf

¹⁷⁵ ISC (2019). ISC/19/ANNEX/06. Annex 6. 19th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. Taipei, Taiwan. July 11–15, 2019. Report of the ALBWG Working Group Workshop, July 2019. http://isc.fra.go.jp/pdf/ISC19/ISC19_ANNEX06_Report_of_the_ALBACORE_Working_Group_Workshop_February2019.pdf

¹⁷⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
32	Pacific	Giant red sea cucumber – Pacific; Healthy		✓2019/20	✓2020/21			Will begin update of LRP in 2019-20.	In progress: Will continue to update LRP in 2020-21.	Delayed
<p>Details: According to the CSAS schedule website, there were no CSAS processes held in 2019 pertaining to giant red sea cucumber in the Pacific, and none currently planned for 2020. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the stock has an LRP.¹⁷⁷ It indicates there is an LRP for several Pacific Fishery Management Area Subareas (50% of virgin biomass estimates) corresponding to the 67 Sea Cucumber Quota Management Areas (QMAs) in BC. However, a coastwide estimate of virgin biomass cannot be provided because assessment information is not available for every part of the coast, so the overall stock status has not been evaluated. According to the survey respondent, how close each subarea is to its LRP is checked each time a QMA is assessed via dive survey. The LRP approach currently in use was developed during a CSAS meeting held in 2010,¹⁷⁸ therefore it is not an updated LRP. The most recent IFMP (2019/20) indicates this same LRP approach is in place and does not indicate any plan for modification.¹⁷⁹ Furthermore, it indicates reference points are of limited use in the current assessment framework because harvest areas must be monitored on a regular basis to see whether changes are occurring and the time, money and effort required to survey all areas multiple times would be prohibitive. However, earlier in the document it does indicate surveys of selected subareas are conducted annually to obtain estimates of the density, albeit even if no estimates beyond 2014 have been published.¹⁸⁰ The IFMP does indicate that science work is ongoing. DFO Science is analyzing the entire time series of data from the Experimental Fishing Areas (1997 to 2015; program halted in 2017) and the IFMP indicated that results will be published in a CSAS Research Document in late 2019. It is unclear what CSAS process would have led to this publication, as according to the schedule website the last CSAS process involving sea cucumbers was in 2010.¹⁸¹ The IFMP also indicates that DFO Science is now moving towards a new, multispecies approach for providing science advice. It indicates DFO Science is developing a multispecies benthic invertebrate survey protocol and will promote an ecosystem approach to stock assessment and gain efficiencies by combining single species survey protocols for the commercial dive fisheries. It is also intended to allow assessment of stock status relative to the three health status zones in the precautionary approach framework. The IFMP noted a CSAS research document with peer-reviewed recommendations on this approach is expected to be delivered by fall 2020. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).¹⁸² The 2020/21 work plan also indicates work will continue to update the LRP this fiscal year. DFO confirms that reference points are of limited use within the current assessment framework because of the lack of a long-term monitoring program but that DFO Science is currently developing a long-term monitoring program (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). DFO Science's work on updating the LRP was temporarily delayed but will resume this fiscal year. Once work is complete, DFO Science will recommend an LRP in a CSAS Research Document that will be vetted through the Regional Peer Review Process. DFO Science is now targeting next fiscal year (2021/22) for the multispecies benthic survey protocol CSAS review, but plans remain uncertain due to COVID-19 (Science, National Capital Region, personal communication, June 23, 2020).</p>										
33	Newfoundland and Labrador	White hake – 3NOPs; Uncertain			✓2019/20			Will continue revision of LRP in 2019-20. New LRP proposed to Northwest Atlantic Fisheries Organization (NAFO) in June 2019.		Suspended

¹⁷⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁷⁸ DFO (2011). Assessment Framework and Management Advice for the British Columbia Giant Red Sea Cucumber (*Parastichopus californicus*) Fishery. DFO Cdn. Sci. Advis. Sec. Sci. Advis. Rep. 2010/080. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2010/2010_080-eng.html

¹⁷⁹ DFO (2019). Pacific Region Integrated Fisheries Management Plan. Sea Cucumber by Dive. October 1, 2019 to September 30, 2020. <https://waves-vagues.dfo-mpo.gc.ca/Library/40815870.pdf>

¹⁸⁰ Duprey, N.M.T. and Stanton, L.M. (2018). Biomass Estimates for Sea Cucumbers (*Parastichopus californicus*, *Cucumaria miniata*, *C. pallida*) as Determined Through Surveys Conducted June 2013 to May 2014. Canadian Manuscript Report of Fisheries and Aquatic Sciences 3112. <https://waves-vagues.dfo-mpo.gc.ca/Library/40657437.pdf>

¹⁸¹ DFO (2010). Terms of Reference. Update to the Assessment Framework for the Pink and Spiny Scallop (*Chlamys rubida*, *C. hastata*) Dive Fishery in Waters off the West Coast of Canada. Assessing Potential Habitat Impacts of Small-scale, Intertidal Geoduck Clam (*Panopea generosa*) Aquaculture. Assessment Update of Sea Cucumber (*Parastichopus californicus*) in British Columbia. Assessment Update of Manila Clam in the Central Coast of British Columbia and Evaluation of the Area 7 Manila Clam Fisheries Management Strategy. Assessment of Inshore Shrimp Stocks along the Coast of British Columbia. Pacific Regional Advisory Process. November 30 – December 2, 2010, Nanaimo, British Columbia. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2010/11/11_30-02-eng.html

¹⁸² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates this stock is co-managed with and assessed by NAFO.¹⁸³ The stock is considered one distinct population in 3NOPs but is managed in two separate management areas by DFO in 3Ps and with NAFO in 3NO.^{184,185} The 3Ps portion of the stock was assessed during a CSAS process held in November 2017, where LRP development was considered but not accepted, in part due to data limitations (exclusion of 3NO data) and life history traits (episodic recruitment).¹⁸⁶ The Science Advisory Report from that process discussed challenges in attempts to develop an LRP for the entire stock, indicating previous investigations using multiple approaches by NAFO scientists were unsuccessful in capturing the episodic character of the stock and therefore were not adopted at the 2015 meeting, nor at the 2017 meeting. The 2019 annual report from the NAFO Scientific Council Meeting indicates no precautionary reference points have been established for this stock.¹⁸⁷ The stock assessment is considered data-limited and highly uncertain. The report includes an update to a previous recommendation that work should continue on the development of population models and reference point proxies, stating that various formulations of a surplus production model in a Bayesian framework were explored and work is continuing. The next full assessment of this stock is planned for 2021. The 2019/20 work plan results for this deliverable indicate "N/A"; the commitment or action as defined in the description of deliverables (2019/20) was not pursued for reasons including no longer being required.¹⁸⁸ However, DFO confirms exploratory work is ongoing towards the development of a model for this stock, which, if successful, is expected to result in a NAFO B_{LIM}. In addition, aging work on this stock has been initiated in the Newfoundland and Labrador region to support the potential development of an age-based model in the future (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). However, given the exploratory nature of the work, timelines indicated, the DFO 2019/20 work plan result of "N/A" and the lack of inclusion in subsequent work plans, this deliverable is evaluated as suspended here.</p>							
34	Gulf	Rock crab – 23, 24, 25, 26A; Uncertain			✓2019/20 ✓2020/21			Will begin to develop LRP in 2019-20.	In progress: Will continue development of LRP in 2020-21.	Ongoing
			<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates this stock does not have an LRP.¹⁸⁹ Comments by the survey respondent pertaining to details of the uncertain stock status indicate data challenges for assessment, and likely LRP development, stating there are no data to calculate biomass estimates or to use as indicators of population abundance. Scientists rely on data collected from the directed fishery, which are highly dependent on fishing effort, which is in turn affected by various socio-economic factors and, therefore, fishery data is considered to poorly represent the stock status. The respondent further notes that it is believed that important quantities of rock crab are removed from the population via the bait and bycatch fisheries by lobster licence holders but that the accuracy and quality of the data collected through the mandatory logbooks is questionable. The stock was last fully assessed in 2013, but in November 2018 a CSAS Science Response Process was held to update indicators. The terms of reference for the meeting indicated the stock does not have reference points and did not indicate intentions to develop any.¹⁹⁰ The resultant report does not mention reference points.¹⁹¹ According to the CSAS schedule, there were no processes pertaining to this stock in 2019 and none are currently planned for 2020. Given these findings, it is unclear if there are any intentions to develop an LRP or proxy for this stock, but given the deliverable only indicates beginning development of an LRP, it is assumed here work is ongoing behind the scenes. This is likely, given the 2020/21 work plan also indicates work will continue to develop an LRP. The 2019/20 work plan results indicate this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.¹⁹² There currently is insufficient data to determine an LRP for the rock crab. DFO indicates a new fishery-independent monitoring project that aims to monitor the abundance of rock crab in the Southern Gulf of St. Lawrence is currently being developed and should be initiated in 2021. This project should provide baseline data to complete a rock crab stock assessment and to propose reference points in 2022, at the earliest (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).</p>							

¹⁸³ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁸⁴ DFO (2019). Integrated Fisheries Management Plan. Groundfish Newfoundland and Labrador Region. NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

¹⁸⁵ DFO (2016). Integrated Fisheries Management Plan. Groundfish (NAFO) Division 3Ps – Updated 2016. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-div3p-2016-eng.html>

¹⁸⁶ DFO (2018). Assessment of White Hake (*Urophycis tenuis*) in NAFO Subdivision 3Ps. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/005. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_005-eng.html

¹⁸⁷ NAFO (2019). Northwest Atlantic Fisheries Organization Report of the Scientific Council Meeting 31 May–13 June 2019, Halifax, Nova Scotia. Serial No. N6966. NAFO SCS Doc. 19/20. <https://www.nafo.int/Portals/0/PDFs/sc/2019/scs19-20.pdf>

¹⁸⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

¹⁸⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

¹⁹⁰ DFO (2018). Terms of Reference. Update of the Indicators of the Rock Crab (*Cancer irroratus*) Fishery of the Southern Gulf of St. Lawrence. Regional Science Response Process – Gulf Region. November 23, 2018, Moncton, New Brunswick. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/11_23-eng.html

¹⁹¹ DFO (2019). Update to 2017 of the Fishery Indicators for Rock Crab (*Cancer irroratus*) in the Southern Gulf of St. Lawrence. DFO Can. Sci. Advis. Sec. Sci. Resp. 2019/007. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2019/2019_007-eng.html

¹⁹² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop LRP	Update or revise LRP	Begin to develop or update LRP	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
35	Newfoundland and Labrador	Capelin – 4RST; Uncertain			✓2020/21				To be initiated: Will begin development of LRP in 2020-21.	
36	Newfoundland and Labrador	Herring – 2J3KLPs; Uncertain			✓2020/21				To be initiated: Will begin development of LRP in 2020-21.	
37	Maritimes	Sea cucumber (SWNB, midshore, and offshore); Uncertain			✓2020/21				To be initiated: Will begin development of LRP for various areas in 2020-21.	
38	Maritimes	Snow crab – CFAs 20–22, 23, 24, 4X; Healthy, Cautious		✓2020/21					To be completed: Will complete update of LRP in 2020-21.	
39	Gulf	Striped bass Uncertain††			✓2020/21				To be initiated: Will begin development of LRP in 2020-21.	
40	Quebec	Gulf of St. Lawrence shrimp – SFA 8, 9, 10, 12; Cautious			✓2020/21				To be initiated: Will begin revision of LRP in 2020-21.	
41	Quebec	Cod – 4RS-3Pn; Critical			✓2020/21				To be initiated: Will begin revision of LRP in 2020-21.	
42	National Capital Region	Northern shrimp – Western Assessment Zone; Uncertain	✓2020/21						To be completed: Will complete development of LRP in 2020-21.	
42	National Capital Region	Striped shrimp – Western Assessment Zone; Uncertain	✓2020/21						To be completed: Will complete development of LRP in 2020-21.	
43	Central and Arctic	Narwhal – North Hudson Bay; Uncertain†			✓2020/21				To be initiated: Will begin development of LRP in 2020-21.	

† denotes status assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results.

†† denotes uncertain status assignments when stocks were not included in either the Sustainability Survey for Fisheries dataset or Oceana Canada’s Fishery Audit dataset.

Table 3. **Work plan section 1B; determining upper stock reference points (USRs):** In section 1 of its annual work plan, Fisheries and Oceans Canada (DFO) prioritizes the stocks or stock groups for which it will develop precautionary approach reference points and harvest control rules (DFO 2017, DFO 2019a, DFO 2019b, DFO 2020a). In 2019/20, section 1 is broken down into five sub-work plans, which for the first time has explicitly prioritized stocks for which USRs are to be determined in a sub-section (1E). The table below summarizes all USR-related deliverables¹⁹³ from section 1 of annual work plans across all years¹⁹⁴ by stock or stock group with most recent health status¹⁹⁵ and status towards completion as assessed by Oceana Canada. Checkmark symbols with fiscal year indicate the type of USR deliverable, while annual deliverable descriptions provided by DFO are also included in associated columns. Stocks with new or revised USRs in documentation available online are noted as completed, stocks that have had deadlines shifted or delays in progress indicated by DFO are noted as delayed, and stocks for which the deadline has not yet passed or for which the work plan deliverable was only to make progress are noted as ongoing. (Please note that the table does not include an assessment of USR quality.) Details on status determinations are provided for stocks with USR-related deliverables included in the 2017/18, 2018/19 and 2019/20 work plans. In the previous evaluations (2018 and 2019) no stocks or stock groups were assessed as completed or suspended, so there is no solid bold line in this table separating rows. All stocks appearing before the dashed bold line (rows 1–11) were evaluated this year and included in the evaluation summary table above (Table 1). Stocks appearing after the dashed bold line (rows 12–13) appear only in the 2020/21 work plan and were not evaluated for status completion.

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
1	Maritimes	Atlantic herring – Maritimes Region; Cautious, Critical	✓2018/19 ¹⁹⁶ Details: There was a CSAS process held in April 2018 where one objective was to propose an USR for 4VWX herring. ¹⁹⁷ The report published from this process indicates a USR was proposed, but no consensus could be reached. It was agreed that no USR recommendation would be put forward from the meeting and that the discussion would be revisited at the next	Development of USR in 2018/19.			Delayed

¹⁹³ As stated in DFO work plans.

¹⁹⁴ All 2019/20 work plan USR deliverables, all USR-related deliverables from previous year fiscal year work plans that were previously incorporated with the LRP-related deliverables, and all new 2020/21 fiscal year work plan USR-related deliverables.

¹⁹⁵ Health status was assigned primarily using Oceana Canada’s Fishery Audit dataset (Oceana Canada 2020), with † denoting assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results (DFO 2020j) and †† denoting uncertain status assigned when stocks were not included in either dataset. As some records represent multiple stocks that appear as more than one record in the datasets used to assign status, all unique statuses for stocks within stock groups are included when applicable.

¹⁹⁶ This stock and deliverable were included in the 2018/19 fiscal year sub-section 1A pertaining to limit reference points (LRPs) to be developed in fiscal year 2018/19, but the deliverable pertained to the USR. It was evaluated last year for USR completion, but with all the other LRP deliverables included in that work plan. This year it is included here with all 2019/20 USR-related deliverables from the new sub-section (1D) dedicated to them, even though it was not repeated in that work plan.

¹⁹⁷ DFO (2018). Terms of Reference. Assessment of Herring in NAFO Divisions 4VWX. Regional Peer Review – Maritimes Region. April 11–12, 2018, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/04_11-12-eng.html

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
			<p>stock framework meeting.¹⁹⁸ According to the CSAS schedule website, part one of a framework meeting reviewing data inputs was held in February 2019 and a stock status update via a Science Response process was held in May 2019.^{199,200} The Science Response report from the later process does not mention a USR, and no reports are available from the February 2019 meeting yet.²⁰¹ In the work plan results for 2018/19 the department indicates this deliverable is delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables (2018/19).²⁰² A second framework meeting was held in January 2020. The terms of reference for this meeting indicate DFO has decided to proceed with a management strategy evaluation (MSE) process as the framework for the major spawning component of the stock (Southwest Nova Scotia/Bay of Fundy herring).²⁰³ An additional CSAS meeting was held virtually in May 2020 to review the structure and fitting of the models that will be used as the basis for all of the operating models in the MSE.²⁰⁴ This meeting was the third of four CSAS processes being held to develop this MSE; the fourth meeting, yet to be scheduled, will involve the review of the entire MSE process.²⁰⁵ There are no reports available yet for either the second or third meeting, and the terms of reference for both meetings do not mention reference points. Another CSAS Science Response Process occurred on April 23, 2020 to provide harvest advice using the old modelling framework.²⁰⁶ Given it used the old framework, this meeting was not likely to provide advice for a USR in any reports, which are not yet available. The currently available IFMP for the stock (published in 2013) is actually a rebuilding plan for one of four spawning components (Southwest Nova Scotia/Bay of Fundy) and does not indicate any USR.²⁰⁷ DFO indicates the intention of the MSE process is to have the full precautionary approach framework in place, including a USR. However, MSE development and implementation is contingent on the model being accepted (Fisheries and Aquaculture Management, and Science, Maritimes Region, personal communication, June 23, 2020). Despite the ongoing science work to support USR development, this deliverable is evaluated as delayed here because development of the USR was noted for completion in 2018/19, was evaluated by DFO as delayed and has not been repeated in subsequent work plans.</p>					
2	Quebec	Greenland halibut (turbot) – 4RST; Cautious	<p>✓2018/19²⁰⁸ ✓2019/20</p>	<p>The limit reference is established and an USR is suggested by Science. The latter will be set in 2018/19 following discussions with fisheries management and industry.</p>	<p>Will complete development of USR in 2019/20. Deliverable previously noted for completion in 2018/19.²⁰⁹</p>		Delayed	
<p>Details: This stock was assessed at a CSAS process held in March 2018, and resulting documentation indicates scientists suggested a USR for management to consider adopting.²¹⁰ At the March 2019 Gulf Groundfish Advisory Committee meeting, departmental officials indicated the USR was still proposed by Science but not yet accepted. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the precautionary approach framework for this stock is under development and consultations are underway to adopt it.²¹¹ The stock</p>								

¹⁹⁸ DFO (2018). 2018 Assessment of 4VWX Herring. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/052. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_052-eng.html

¹⁹⁹ DFO (2019). Terms of Reference. Assessment Framework for Southwest Nova Scotia/Bay of Fundy Herring: Part 1 – Review of Data Inputs. Regional Peer Review – Maritimes Region. February 5–6, 2019, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_05-06-eng.html

²⁰⁰ DFO (2019). Terms of Reference. Stock Status Update of Herring in Northwest Atlantic Fisheries Organization (NAFO) Fishing Area 4VWX. Regional Science Response Process – Maritimes Region. May 8, 2019, Dartmouth, N.S. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/05_08-eng.html

²⁰¹ DFO (2020). Stock Status Update of 4VWX Herring for the 2018/2019 Fishing Season. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/001. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_001-eng.html

²⁰² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

²⁰³ DFO (2020). Terms of Reference. Southwest Nova Scotia/Bay of Fundy Herring Framework: Part 2 – Management Strategy Evaluation Conditioning Operating Model Review. Regional Peer Review – Maritimes Region. January 21–22, 2019 [2020], Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/01_21-22-eng.html

²⁰⁴ DFO (2020). Terms of Reference. Continuation of 4VWX Herring Framework Part II: Operating Model Development. Regional Peer Review – Maritimes Region. May 26–27, 2020, Virtual meeting. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/05_26-27c-eng.html

²⁰⁵ DFO (2020). Terms of Reference. Continuation of 4VWX Herring Framework Part II: Operating Model Development. Regional Peer Review – Maritimes Region. May 26–27, 2020, Virtual meeting. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/05_26-27c-eng.html

²⁰⁶ DFO (2020). Terms of Reference. Stock Status Update of Herring in Northwest Atlantic Fisheries Organization (NAFO) Fishing Area 4VWX. Regional Science Response Process – Maritimes Region. April 23, 2020, Dartmouth, N.S. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/04_23-eng.html

²⁰⁷ DFO (2013). Canadian Atlantic Herring (*Clupea harengus*) – SWNS Rebuilding Plan – Atlantic Canada – 2013. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-hareng-2013-eng.html>

²⁰⁸ This stock and deliverable were included in the 2018/19 fiscal year sub-work plan 1A pertaining to limit reference points (LRPs) to be developed in fiscal year 2018/19, but the deliverable pertained to the USR. It was evaluated last year for USR completion, but with all the other LRP deliverables included in that work plan. This year it is included here with all 2019/20 USR-related deliverables from the new sub-work plan (1D) dedicated to them.

²⁰⁹ The deliverable details for the 2018/19 sub-work plan 1A (LRP to be developed) indicated that the LRP was in place but that the USR would be set in 2018/19. Upper stock reference points were not part of the first two fiscal year work plans, but there is now a specific USR sub-work plan in the 2019/20 work plan (1D). As indicated here, the USR was not set in 2018/19.

²¹⁰ DFO (2018). Assessment of the Greenland Halibut Stock in the Gulf of St. Lawrence (4RST) in 2017. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/035. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_035-eng.html

²¹¹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
3	Gulf	Atlantic salmon – Gulf Region; Uncertain †	✓2019/20 ✓2020/21		Will continue to develop USR in 2019/20. Development of PA framework will continue in 2019/20 with consultations on the proposed USR and decision rules for the recreational fishery in the Miramichi River system.	Will continue development of USR in 2020-21. Consultations on options for the Miramichi River recreational fishery USR and HCR are planned for fall 2020.	Delayed
4	Newfoundland and Labrador and National Capital Region	Northern shrimp – SFAs 4–6; Critical, Cautious	✓2019/20 ✓2020/21		Will begin to develop USR in 2019-20.	Will continue development of USR in 2020-21.	Delayed

²¹² DFO (2019). Terms of Reference. Assessment of the Gulf of St. Lawrence (4RST) Greenland Halibut. Regional Peer Review – Quebec Region. February 20–21, 2019, Mont-Joli, Quebec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_20-21-eng.html

²¹³ DFO. (2019). Assessment of the Gulf of St. Lawrence (4RST) Greenland Halibut Stock in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/023. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_023-eng.html

²¹⁴ DFO. (2020). Update of Stock Status Indicators for Greenland Halibut in the Gulf of St. Lawrence (4RST) in 2019. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/005. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_005-eng.html

²¹⁵ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²¹⁶ DFO (2018). Limit Reference Points for Atlantic Salmon Rivers in DFO Gulf Region. DFO Can. Sci. Advis. Sec. Sci. Res. 2018/015. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_015-eng.html

²¹⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

²¹⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²¹⁹ DFO (2019). Terms of Reference. Development of a new Precautionary Approach Framework for Northern Shrimp in the Newfoundland and Labrador Region. Regional Peer Review – Newfoundland and Labrador Region. May 15–17, 2019. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/05_15-17-eng.html

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
			<p>(80% of the geometric mean of the spawning stock biomass index of what was considered a productive time period). They further indicate reference points were reviewed during a Science Response process in 2017, where it was concluded that in the absence of a predictive population model that incorporated ecosystem factors, there was not sufficient evidence to change the reference points. Scientists developed spatially explicit population models for northern shrimp in SFAs 4-7 to address this gap and assist with the re-evaluation of shrimp reference points at the May 2019 meeting. In Oceana Canada's evaluation of the LRP deliverable related to this stock group last year, departmental officials indicated that while a new model was accepted, more work is required. Consequently, reference points were not determined at the May 2019 meeting, and their development will occur later (N. Schjott, personal communication, June 25, 2019). There are still no publications available from the May 2019 meeting to document this progress and decisions. In February 2020 a CSAS process was held to assess northern shrimp in SFAs 4-6. Reference points are not mentioned in the terms of reference for the meeting,²²⁰ and reports are not yet available from this process. Results of the 2019/20 work plan indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).²²¹ The 2020/21 fiscal year work plan indicates work towards USR development will continue this fiscal year. DFO confirms that work continues on the development of an updated LRP but that there has been no progress on the development of an USR (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020).</p>					
5	Newfoundland and Labrador	Snow crab – 2J, 3KLNO and 3Ps; Critical, Cautious	<p>✓2019/20 ✓2020/21</p>		Will begin to develop USR in 2019/20.	Will continue development of USR in 2020-21.	Delayed	
<p>A CSAS process was held in June 2018 to develop a precautionary approach (PA) framework for snow crab in the Newfoundland and Labrador Region. The research document published from this meeting indicates LRPs were established and includes USRs and HCRs proposed by scientists.²²² An additional CSAS process was held in February 2019,²²³ and the CSAS Science Advisory Report includes details about the LRPs and stock statuses in relation to them and indicates that upper removal references, HCRs and USRs that have been proposed have not been adopted into the framework and that USRs remained under development.²²⁴ According to the proceedings from the February 2019 meeting, all fishers in attendance were not in agreement with the inclusion of the PA framework or bullets related to it in the resultant Science Advisory Report.²²⁵ Several participants expressed concerns the proposed PA framework was even presented. However, it was clarified that LRPs defining the critical zone were established by a peer-review CSAS process, that USRs defining the cautious and healthy zones remain under development and that the proposed cautious and healthy zones (i.e., zones created by a proposed USR) would not be used by Resource Management for the 2019 fishing season. Several participants stated that Resource Management should consult harvesters to finalize the PA framework. The proceedings indicate that DFO Science noted the proposed PA framework includes the best science advice available and that proposed cautious and healthy zones will be included in all science advice going forward. Snow crab in the region were assessed again at a CSAS meeting held in February 2020,²²⁶ but the reports from this process are not yet available publicly. The IFMP for the stock, which was posted online in May 2019, indicates industry consultations on the PA framework were held in fall 2018 and a number of concerns were raised.²²⁷ It indicates that during the winter of 2019 a working group was formed and a meeting was held to discuss harvest control rules and the USR levels but that further discussion was required. The IFMP indicates it is anticipated that the PA framework will be finalized and accepted in 2020. The results of the 2019/20 work plan indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).²²⁸ The 2020/21 fiscal year work plan indicates work will continue to develop the USR in this fiscal year. DFO indicates that industry has expressed divergent views on reference points but that efforts will continue in 2020/21 towards the development of USRs (Fisheries and Aquaculture Management, Newfoundland and Labrador region, personal communication, June 23, 2020).</p>								

²²⁰ DFO (2020). Terms of Reference. Assessment of Northern Shrimp in Shrimp Fishing Areas (SFAs) 4, 5 and 6. Regional Peer Review – Newfoundland and Labrador Region. February 18–20, 2020. St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_18-20-eng.html

²²¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²²² Mullaney, D., Baker, K., Pedersen, E., & Osborne, D. (2018). Basis for A Precautionary Approach and Decision Making Framework for the Newfoundland and Labrador Snow Crab (*Chionoecetes opilio*) Fishery. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/054. iv + 66 p. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_054-eng.html

²²³ DFO (2019). Terms of Reference. 2HJ3KLNOP4R Snow Crab Assessment. Regional Peer Review Process – Newfoundland and Labrador Region. February 19–21, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_19-21-eng.html

²²⁴ DFO (2019). Assessment of Newfoundland and Labrador (Divisions 2HJ3KLNOP4R) Snow Crab. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/041. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_041-eng.html

²²⁵ DFO (2020). Proceedings of the Newfoundland and Labrador Regional Peer Review of the 4R Iceland Scallop Assessment, and the 2HJ3KLNOP4R Snow Crab Assessment; February 19–21, 2019. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2020/003. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2020/2020_003-eng.html

²²⁶ DFO (2020). Terms of Reference. 2HJ3KLNOP4R Snow Crab Assessment. Regional Peer Review Process – Newfoundland and Labrador Region. February 25–27, 2020, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_25-27-eng.html

²²⁷ DFO (2019). Integrated Fisheries Management Plan. Snow Crab – Newfoundland and Labrador Region. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/index-eng.html>

²²⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status		
6	Pacific	Pacific herring – Haida Gwaii; Critical	✓2019/20 ✓2020/21		Will begin to develop USR in 2019/20.	Will continue development of USR in 2020-21.	Ongoing		
		Pacific herring – Prince Rupert District; Cautious	<p>Details: In August 2019 a CSAS Science Response Process (SRP) was held to evaluate management procedures for Pacific herring (<i>Clupea pallasii</i>) in the Haida Gwaii, Prince Rupert District and Central Coast management areas of British Columbia developed under Management Strategy Evaluation (MSE). The resultant Science Response report summarizes progress to date and next steps.²²⁹ It indicates that LRPs were developed and accepted by scientists at a meeting in 2017 and that closed-loop feedback simulation testing of candidate management procedures was recommended as a next step to evaluate the consequences of LRP choice for each area. However, the selection of preferred management procedures requires a full set of measurable objectives for conservation and the fishery (e.g., related to catch, catch variability and socio-cultural goals) that have yet to be developed. Therefore, at the 2019 CSAS SRP only core fisheries management objectives and potential stock-specific objectives previously proposed by DFO at the Integrated Herring Harvest Planning Committee in May 2017 were included in this first cycle of MSE. (SRPs are smaller, usually DFO-only peer review processes without external participation.) The report provides results indicating the relative performance of candidate management procedures for the Haida Gwaii, Prince Rupert District and Central Coast management areas against the core conservation objective – to ensure a high probability (75–95%) of avoiding the LRP over three herring generations. The report noted that DFO will continue to collaborate with coastal First Nations to develop area-specific objectives specific to Food, Social and Ceremonial fisheries and spawn-on-kelp fisheries. In September 2019, another CSAS SRP was held to update the status of the stocks and provide harvest advice for 2019/20. The report from this process indicated harvest advice was informed by multiple methods, including newly tested management procedures that passed the core conservation objective.²³⁰ The report also indicates that four candidate USRs were first introduced at a CSAS meeting in October 2017²³¹ and implemented as biomass objectives in the simulation analyses. Although not indicated as a candidate USR in the report from the August 2019 meeting, one candidate USR (0.6 SB0) from the October 2017 meeting is included in the tables of results for each stock. The report from the September 2019 meeting further elaborates that the simulation-evaluations did not select a single USR; however, a USR of 0.6SB0 is included in the update because this candidate is sufficiently above the LRP (2*LRP) and it is a repeatable calculation across all stocks. Stock status relative to the assessment model estimates 0.3SB0 (e.g., the LRP) and 0.6SB0 (e.g., the proposed USR) are presented in the report for each stock. The most recent IFMP (2019/20) provides a synopsis of progress to date with the MSE and alignment of Pacific herring management with the DFO precautionary approach, indicating the four proposed methods for determining the USRs are a starting point for consultations.²³² It reiterates that engagement with rights-holders and stakeholders will be ongoing in 2020/21. The results of the 2019/20 work plan evaluation indicate this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.²³³ The 2020/21 fiscal year work plan indicates work will continue towards development of USRs this fiscal year. DFO confirms that this deliverable is considered “ongoing” given that more simulation work and consultation is needed to “select” a USR for each area. There are several candidate USRs being considered for these areas (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).</p>						
		Pacific herring – Central Coast; Cautious							
7	Quebec	Snow crab – coastal (12A, 12B, 12C, 13, 14, 15, 16, 16A, 17); Uncertain	✓2019/20 ✓2020/21		Will begin to develop USR in 2019/20. Possibility of completion in 2020/21.	Carry forward from 2019-20. Will begin development of USR in 2020-21.	Delayed		
		<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the precautionary approach components for this stock group are currently under development with an implementation target of 2020/2021.²³⁴ A CSAS process was held in February 2019 to assess the stocks, but reference point development was not part of the terms</p>							

²²⁹ DFO (2020). Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in Haida Gwaii, Prince Rupert District, and the Central Coast Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/003. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_003-eng.html

²³⁰ DFO (2020). Stock Status Update with Application of Management Procedures for Pacific Herring (*Clupea pallasii*) in British Columbia: Status in 2019 and Forecast for 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/004. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_004-eng.html

²³¹ Cleary, J.S., Hawkshaw, S., Grinnell, M.H. and Grandin, C. (2019). Status of B.C. Pacific Herring (*Clupea pallasii*) in 2017 and Forecasts for 2018. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/028. v + 285 p. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs/DocRech/2018/2018_028-eng.html

²³² DFO (2019). Pacific Region Integrated Fisheries Management Plan. November 26, 2019–November 6, 2020. Pacific Herring. <https://waves-vagues.dfo-mpo.gc.ca/Library/40851448.pdf>

²³³ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²³⁴ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			of reference, ²³⁵ and therefore USRs are not mentioned in the resultant report. ²³⁶ The stock was most recently assessed in February 2020, but again reference point development was not part of the terms of reference. ²³⁷ Reports from this process are not yet available. The IFMP for the stocks, last modified in June 2019, indicates that the science assessments of the stocks classifies stock status based on three levels (healthy, cautious and critical), which are delineated by reference levels (upper and lower). ²³⁸ However, it then indicates that the precautionary approach for the snow crab fishery in the inshore areas of the northern Gulf of St. Lawrence is being developed and that research priorities to support stock assessment and snow crab management in the short to medium term include the development of the precautionary approach and an ecosystem approach. The results from the 2019/20 work plan evaluation indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ²³⁹ The 2020/21 fiscal year work plan indicates USR development will begin this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO indicates work has begun on the Science side and will continue this year, depending on available resources (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020). The USR development is conditional on Science being able to make progress in the development of a model and indicators. The objective is to start discussion in 2020/21, at least for some of the nine stocks (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).				
8	Quebec	Atlantic halibut – 4RST; Uncertain	✓2019/20 ✓2020/21		Will begin to develop USR in 2019-20. USR may be established in 2020/21.	Carry forward from 2019-20. Will begin development of USR in 2020-21.	Delayed
<p>Details: According to the CSAS schedule website, in fiscal year 2019/20 there were no CSAS processes pertaining to this stock. The stock was last assessed in February 2019, where the terms of reference indicate an LRP was to be developed, but there is no mention of providing advice for a USR.²⁴⁰ Reference points were not developed at the meeting, but the intention to develop them over the “medium term” was mentioned in the resultant Science Advisory Report.²⁴¹ The proceedings from the meeting indicate participants agreed that existing research indices (DFO bottom trawl RV surveys and sentinel surveys) are useful and have potential in determining reference points for the precautionary approach.²⁴² It also identified reference points and the precautionary approach as one of the issues for which efforts will be invested. According to the advisory report, the stock will next be assessed in 2021, and there was no intention to assess it in the intervening year (2020). The stock does not currently have an analytical assessment model and instead is assessed using trends in survey indices (two DFO bottom trawl RV surveys and sentinel survey). A longline survey and tagging program for the entire Gulf of St. Lawrence was initiated as a collaboration between DFO and industry in 2017 and should provide a more complete survey dataset (i.e., more appropriate for use as an index of abundance than a bottom trawl survey for this species) to use in development of an analytical model. It is unclear if this is the reason reference points were not developed and deferred to the “medium” term. The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).²⁴³ The 2020/21 fiscal year work plan indicates USR development will begin this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO confirms that no substantial work has been done but that work will begin in 2020/21 (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).</p>							
9	Pacific		✓2019/20 ✓2020/21		Will begin to develop USR in 2019/20.	Will continue development of USR in 2020-21.	Ongoing

²³⁵ DFO (2019). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 12–13, 2019, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_12-13-eng.html

²³⁶ DFO (2019). Assessment of the Estuary and Northern Gulf of St. Lawrence (Areas 13 to 17, 12A, 12B, 12C and 16A) Snow Crab Stocks in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/047. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_047-eng.html

²³⁷ DFO (2020). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 11–12, 2020, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_11-12-eng.html

²³⁸ DFO (2019). Integrated Fisheries Management Plan. Snow Crab – Estuary and Northern Gulf of St. Lawrence Inshore Areas (12A, 12B, 12C, 13, 14, 15, 16, 16A and 17). <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/snow-crab-neiges-eng.html#toc2>

²³⁹ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²⁴⁰ DFO (2019). Terms of Reference. Assessment of the Gulf of St. Lawrence (4RST) Atlantic Halibut. Regional Peer Review – Quebec Region. February 18–19, 2019, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_18-19-eng.html

²⁴¹ DFO (2019). Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/038. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_038-eng.html

²⁴² DFO (2019). Proceedings of the Regional Peer Review of the Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut. Can. Sci. Advis. Sec. Proc. Ser. 2019/013. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2019/2019_013-eng.html

²⁴³ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		Red sea urchin – Pacific Region; Healthy					
			<p>Details: According to the CSAS schedule website, in fiscal year 2019/20 there were no CSAS processes pertaining to red sea urchin (RSU) in the Pacific. The stock was last assessed in February 2019 and specifically included identification of candidate reference points in the title of the process. The resultant Science Advisory Report includes details on provisional reference points and recommends a new LRP and USR (0.3 mature RSU/m² and 0.6 mature RSU/m², on RSU habitat, respectively; mature RSU are defined as ≥ 50 mm test diameter and RSU habitat is defined as hard substrate larger than gravel (>0.25 cm) where mud is not the predominant substrate).²⁴⁴ However, the 2019/20 IFMP indicates there is currently no limit or upper stock reference points in place for the commercial Red Sea Urchin fishery in BC.²⁴⁵ It does note that the February 2019 process occurred (but not in the context of reference point development), that the research from it was accepted and that recommendations from the report will be incorporated into the management of the fishery starting next season after further consultation with First Nations and industry. The results of the 2019/20 work plan evaluation indicate this deliverable was met: the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.²⁴⁶ The 2020/21 fiscal year work plan indicates work will continue towards development of a USR this fiscal year. DFO indicates a USR will be chosen once a long-term monitoring program has been developed (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).</p>				
10	Pacific	Albacore tuna – north Pacific; Healthy	✓2019/20 ✓2020/21		Will begin to develop USR in 2019/20.	Canada will continue to update USR through the MSE process with RFMOs [regional fisheries management organizations].	Ongoing
			<p>Details: DFO coordinates management of this stock with the USA under the Pacific Albacore Tuna Treaty and with multiple other nations under the Inter-American Tropical Tuna Commission and the Western and Central Pacific Fisheries Commission (WCPFC). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the LRP is the only precautionary approach component established; there is no USR yet.²⁴⁷ The most recent IFMP (2019/20) indicates the stock is assessed approximately every three years by the Albacore Working Group (ALBWG), part of the of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC).²⁴⁸ The IFMP outlines several uncertainties that are affecting the ability of the ALBWG to assess the utility of biological reference points for North Pacific albacore and outlines several research priorities to address the uncertainties. It also indicates that the ALBWG is working to advance a management strategy evaluation (MSE) for North Pacific Albacore Tuna that will evaluate possible target reference points and alternative harvest control rules and supports the application of the precautionary approach at the international level. According to the IFMP, management objectives have been established and a suite of candidate reference points have been proposed through three Albacore Tuna MSE workshops involving managers, scientists and stakeholders. The working group has been working on evaluation of performances of these proposed biological reference points and harvest control rules through the MSE processes. The working group met from February 26 to March 4, 2019, where a working paper with the results of the first round of modelling was presented, which included biomass reference points.^{249,250} The MSE has three reference points: limit reference point, threshold reference point and target reference point (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). The threshold reference point functions as an operational control point. It would be a collective decision if the threshold reference point is adopted as a USR under DFO's precautionary approach framework and appears in the IFMP as such (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). A stock assessment was conducted in April 2020 by video conference by the ALBWG (Science, National Capital Region, personal communication, June 23, 2020). The results of the stock assessment will be finalized by the ISC at their annual meeting in July 2020. In winter 2021, the second round of MSE modelling is scheduled to be reviewed at the 5th Albacore MSE workshop (Science, National Capital Region, personal communication, June 23, 2020). The results of the 2019/20 work plan evaluation indicate this deliverable was met: the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.²⁵¹ The 2020/21 fiscal year work plan indicates Canada will continue the development of the USR with regional fisheries management organizations this fiscal year. This will be accomplished through the continuation of the MSE process (Science, National Capital Region, personal communication, June 23, 2020).</p>				

²⁴⁴ DFO (2019). The Identification of Provisional Reference Points and Harvest Rate Options for the Commercial Red Sea Urchin (*Mesocentrotus franciscanus*) Fishery in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/036. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_036-eng.html

²⁴⁵ DFO (2019). Pacific Region Integrated Fisheries Management Plan Red Sea Urchin. August 1, 2019 to July 1, 2020. <https://waves-vagues.dfo-mpo.gc.ca/Library/40797879.pdf>

²⁴⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²⁴⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

²⁴⁸ DFO (2020). Pacific Region Integrated Fisheries Management Plan. April 1, 2019 – March 31, 2020. Albacore Tuna. <https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf>

²⁴⁹ Tommasi, D. and Teo, S. (2020). Summary of Results for the North Pacific Albacore Tuna (*Thunnus alalunga*) Management Strategy Evaluation. http://isc.fra.go.jp/pdf/ALB/ISC19_ALB_1/ISC19-ALBWG-01_01.pdf

²⁵⁰ ISC (2019). ISC/19/ANNEX/06. Annex 6. 19th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. Taipei, Taiwan. July 11–15, 2019. Report of the ALBWG Working Group Workshop, July 2019. http://isc.fra.go.jp/pdf/ISC19/ISC19_ANNEX06_Report_of_the_ALBACORE_Working_Group_Workshop_February2019.pdf

²⁵¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop USR	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
11	Pacific	Giant red sea cucumber – Pacific; Healthy	✓2019/20 ✓2020/21		Will begin to update USR in 2019/20.	Will begin development of USR in 2020-21.	Delayed
<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the stock does not have a USR.²⁵² The most recent IFMP (2019/20) indicates reference points are of limited use in the current assessment framework because harvest areas must be monitored on a regular basis to see whether changes are occurring; the time, money and effort required to survey all areas multiple times would be prohibitive. However, earlier in the document it does indicate surveys of selected subareas are conducted annually to obtain estimates of the density, albeit even if it appears that no estimates beyond 2014 have been published.²⁵³ The IFMP does indicate that science work is ongoing and that DFO Science is analyzing the entire time series of data from the Experimental Fishing Areas (1997 to 2015; program halted in 2017). Results will be published in a CSAS Research Document in late 2019. It is unclear what CSAS process would have led to this publication, as according to the schedule website the last CSAS process involving sea cucumbers was in 2010.²⁵⁴ None are currently on the CSAS schedule for 2020, but DFO indicates a CSAS process on reference points for giant red sea cucumber is planned for 2020/21 (Science, National Capital Region, personal communication, June 23, 2020). The IFMP also indicates that DFO Science is now moving towards a new, multispecies approach for providing science advice. It indicates DFO Science is developing a multispecies benthic invertebrate survey protocol that will a) promote an ecosystem approach to stock assessments and b) gain efficiencies by combining single species survey protocols for the commercial dive fisheries. It is also intended to allow assessment of stock status relative to the three health status zones in the precautionary approach framework. The IFMP noted a CSAS research document with peer-reviewed recommendations on this approach is expected to be delivered by fall 2020. Again, this is unclear given that currently, there are no processes in 2020 related to this stock listed on the CSAS website. It is unclear whether this ongoing DFO Science work will lead to development of a USR, given DFO Science only advises on USR development and the comments related to LRPs in the IFMP. The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).²⁵⁵ The 2020/21 fiscal year work plan indicates work will begin in this fiscal year to develop a USR. DFO confirms that Science's work on developing a USR was temporarily delayed but will resume this fiscal year. Once work is complete, DFO Science will recommend a USR in a CSAS Research Document that will be vetted through the CSAS Regional Peer Review Process (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).</p>							
12	Maritimes	Snow crab – CFAs 20-22, 23, 24, 4X Healthy, Cautious	✓2020/21			Will complete update of USR in 2020-21.	
13	Quebec	Cod – 4RS-3Pn; Critical	✓2020/21			Will begin to revise USR in 2020-21.	

† denotes status assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results.

†† denotes uncertain status assignments when stocks were not included in either the Sustainability Survey for Fisheries dataset or Oceana Canada's Fishery Audit dataset.

²⁵² DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

²⁵³ Duprey, N.M.T. and Stanton, L.M. (2018). Biomass Estimates for Sea Cucumbers (*Parastichopus californicus*, *Cucumaria miniata*, *C. pallida*) as Determined Through Surveys Conducted June 2013 to May 2014. Canadian Manuscript Report of Fisheries and Aquatic Sciences 3112. <https://waves-vagues.dfo-mpo.gc.ca/Library/40657437.pdf>

²⁵⁴ DFO (2010). Terms of Reference. Update to the Assessment Framework for the Pink and Spiny Scallop (*Chlamys rubida*, *C. hastata*) Dive Fishery in Waters off the West Coast of Canada. Assessing Potential Habitat Impacts of Small-scale, Intertidal Geoduck Clam (*Panopea generosa*) Aquaculture. Assessment Update of Sea Cucumber (*Parastichopus californicus*) in British Columbia. Assessment Update of Manila Clam in the Central Coast of British Columbia and Evaluation of the Area 7 Manila Clam Fisheries Management Strategy. Assessment of Inshore Shrimp Stocks along the Coast of British Columbia. Pacific Regional Advisory Process. November 30 – December 2, 2010, Nanaimo, British Columbia. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2010/11/11_30-02-eng.html

²⁵⁵ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

Table 4. **Work plan section 1E; determining precautionary approach harvest control rules (HCRs):** In section 1 of its annual work plan, Fisheries and Oceans Canada (DFO) prioritizes the stocks or stock groups for which it will develop precautionary approach reference points and harvest control rules (DFO 2017, DFO 2019a, DFO 2019b, DFO 2020a). In 2019/20, section 1 is broken down into five sub-sections, one of which pertains to determining precautionary approach HCRs (1E). The table below summarizes all fiscal year HCR deliverables²⁵⁶ from section 1 of annual work plans across all years by stock or stock group, with most recent health status²⁵⁷ and status towards completion as assessed by Oceana Canada. Checkmark symbols with fiscal year indicate the type of HCR deliverable, while annual deliverable descriptions provided by DFO are also included in associated columns. Stocks with new or recently evaluated HCRs in documentation available online are noted as completed, stocks that have had deadlines shifted or delays in progress indicated by DFO are noted as delayed, and stocks for which the deadline has not yet passed or for which the work plan's deliverable was only to make progress are noted as ongoing. (Please note that the table does not include an assessment of HCR quality.) Details on status determinations are provided for stocks included in the 2017/18, 2018/19 and 2019/20 work plans. Stocks appearing first, before the bold line separating rows (rows 1–3), were previously assessed as completed or suspended in the 2018 or 2019 evaluation. Stocks after the bold line but before the dashed bold line (rows 4–20) were evaluated this year and included in the evaluation summary table above (Table 1). Stocks appearing after the bold dashed line (row 21) appear only in the 2020/21 work plan and were not evaluated for status completion.

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
1	Gulf	Lobster – southern Gulf LFA 23, 24, 25, 26A, 26B; Healthy	✓2017/18 ✓2018/19	Harvest control rules will be evaluated and implemented by March 31, 2018.	HCR to be implemented pending approval. HCRs for the lobster Southern Gulf stocks were previously noted for completion in 2017/18.			Previously completed (2019)
<p>Details: No CSAS processes for this stock were held in fiscal 2017/18. As noted in the 2018/19 work plan, work to develop and implement HCRs was not completed and continued into 2018/19. One CSAS process was held in November 2018 to update the status of lobster in the southern Gulf of St. Lawrence, but HCRs were not noted in the terms or reference or the resulting published report.^{258,259} This is surprising, considering they appear to have been developed prior to the CSAS process: A joint DFO and industry working group was convened in 2017/18 to develop HCRs and submitted a recommendation to the southern Gulf of St. Lawrence (sGSL) Lobster Advisory Committee, which supported the approach during the meeting in January 2017 (N. Schjott, personal communication, June 25, 2019). The Minister approved the HCRs for implementation in June 2018 and published them on the DFO website, with the indication that they would be incorporated in the next update of the IFMP.²⁶⁰ Last year the updated IFMP scheduled to be developed in 2018/19 was delayed. The IFMP for lobster in the Gulf Region that is currently available is still the old (2014) dated plan.²⁶¹</p>								
2	Newfoundl and and Labrador	Greenland halibut (turbot) – 2+3KLMNO; Uncertain	✓2018/19		Development of exceptional circumstances protocol (within NAFO) to monitor performance of recently adopted HCR.			Previously completed (2019)
<p>Details: According to the recently published (2019) IFMP, this stock is assessed by the Northwest Atlantic Fisheries Association (NAFO).²⁶² The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates there is an HCR in place for this stock.²⁶³ The annual report from the NAFO commission in 2017 indicated a working group intended to meet in</p>								

²⁵⁶ As stated in DFO work plans.

²⁵⁷ Health status was assigned primarily using Oceana Canada's Fishery Audit dataset (Oceana Canada 2020), with † denoting assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results (DFO 2019k) and †† denoting uncertain status assigned when stocks were not included in either dataset. As some records represent multiple stocks that appear as more than one record in the datasets used to assign status, all unique statuses for stocks within stock groups are included when applicable.

²⁵⁸ DFO (2018). Terms of Reference. Update of the Indicators of the American Lobster (*Homarus americanus*) Stocks of the Southern Gulf of St. Lawrence. Regional Science Response Process – Gulf Region. November 21, 2018, Moncton, New Brunswick.

http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/11_21b-eng.html

²⁵⁹ DFO (2019). Update of the Stock Status Indicators of the American Lobster (*Homarus americanus*) Stock of the Southern Gulf of St. Lawrence to 2018. DFO Can. Sci. Advis. Sec. Sci. Resp. 2019/008. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScRS/2019/2019_008-eng.html

²⁶⁰ DFO (2018). Precautionary Approach Harvest Decision Rules for the Lobster Fishery in the Southern Gulf of St. Lawrence: Lobster Fishing Areas 23, 24, 25, 26A, 26B. <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/lobster-precaution-homard-eng.html>

²⁶¹ DFO (2014). Integrated Fisheries Management Plan. Lobster in the Southern Gulf of St. Lawrence. Lobster Fishing Areas 23, 24, 25, 26A, 26B. March 2014. <http://www.glf.dfo-mpo.gc.ca/Gulf/FAM/IFMP/2014-Lobster-Gulf-Region>

²⁶² DFO (2019). IFMP Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

²⁶³ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			August 2018 to finalize the exceptional circumstances protocol associated with the HCR for adoption at the 2018 annual meeting. ²⁶⁴ According to the 2018 NAFO annual report, this was accomplished, and the exceptional circumstances adopted. ²⁶⁵ The HCR and exceptional circumstance protocol to monitor performance of the HCR are available in NAFO documentation. ²⁶⁶					
3	Pacific	Pacific herring – Strait of Georgia; Cautious	✓2018/19		Development of USRs and evaluation of PA-aligned HCR for the west coast of Vancouver Island and Strait of Georgia stocks in 2018/20.			Previously completed (2019)
		Pacific herring – west coast of Vancouver Island; Cautious	Details: A CSAS processes was held in January 2018 to evaluate management procedures for Pacific herring in the Strait of Georgia (SOG) and the west coast of Vancouver Island (WCVI) management areas, including the testing of various HCRs in a Management Strategy Evaluation (MSE) framework. ²⁶⁷ The report published from this process indicates no USR was selected for adoption, but candidate USRs are presented. ²⁶⁸ Importantly, the report provides the relative performance of 10 management procedures (with HCRs) in achieving objectives developed by management, rights-holders and stakeholders. The most recent complete IFMP (2019) indicates the consistent use of one candidate USR across all five major Pacific herring stocks. ²⁶⁹ For the SOG and WCVI stocks, catch limits for 2019/20 were calculated based on the best-performing management procedure.					
4	Gulf	Atlantic herring – 4T fall spawner ²⁷⁰ (fixed gear) (mobile gear); ²⁷¹ Cautious	✓2017/18 ✓2018/19 ✓2019/20 ✓2020/21	HCRs will be evaluated and implemented by March 31, 2018.	Meetings with working groups are planned to reconvene and to revisit HCR with stakeholders. HCRs for the herring 4T stocks were previously noted for completion in 2017-18.	Will continue to develop HCR in 2019-20. Deliverable previously noted for completion in 2018-19.	Will continue development of HCR in 2020-21.	Delayed
			Details: The 2018/19 work plan indicated that this deliverable was delayed (i.e., the 2017/18 work was not completed as intended). A CSAS process was held in March 2018 to assess Atlantic herring (<i>Clupea harengus</i>) from the southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and provide advice for the 2018 and 2019 fisheries, ²⁷² but it did not evaluate potential HCRs. ^{273,274} No further CSAS processes occurred in 2018/19, but resource management meetings with working groups did occur as planned on December 13, 2018 and February 20, 2019 (N. Schjott, personal communication, August 1, 2019). In the work plan results for 2018/19 the department indicates this deliverable was met; the commitment or action as defined in the description of deliverables (2018/19) was completed without a tangible deliverable. ²⁷⁵ But the department also noted in the 2019/20 work plan that this HCR deliverable was delayed.					

²⁶⁴ NAFO (2017). Northwest Atlantic Fisheries Organization Report of the Commission and its Subsidiary Bodies (STACTIC and STACFAD). 39th Annual Meeting of NAFO 18–22 September 2017, Montréal, Québec, Canada. Serial No. N6766. NAFO/COM Doc. 17-29 (Revised) <https://www.nafo.int/Portals/0/PDFs/com/2017/comdoc17-29.pdf>

²⁶⁵ NAFO (2018). NAFO Annual Report 2018. <https://www.nafo.int/Portals/0/PDFs/ar/ar2018/AR-2018.pdf>

²⁶⁶ NAFO (2018). Northwest Atlantic Fisheries Organization Serial No. N6888 NAFO/COM-SC Doc. 18-05. <https://www.nafo.int/Portals/0/PDFs/COM-SC/2018/com-scdoc18-05.pdf>

²⁶⁷ DFO (2018). Terms of Reference. Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in the Strait of Georgia and the West Coast of Vancouver Island Management Areas of British Columbia Regional Peer Review Process – Pacific Region. July 25–26, 2018, Nanaimo, B.C. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/07_25-26-eng.html

²⁶⁸ DFO (2019). Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in the Strait of Georgia and the West Coast of Vancouver Island Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/001. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_001-eng.html

²⁶⁹ DFO (2019). Pacific Region Integrated Fisheries Management Plan – Pacific Herring. November 7, 2018–November 6, 2019. Updated February 12, 2019. <https://waves-vagues.dfo-mpo.gc.ca/Library/40762713.pdf>

²⁷⁰ Note that until the 2020/21 fiscal year work plan, DFO listed this stock as two: one for each gear type, which is appropriate given they catch the same fish stock. This change has been made in this year's (2020) evaluation as well.

²⁷¹ Note that in the 2017/18 work plan 1, the mobile gear component of this stock was incorrectly listed as 4T spring spawner (mobile gear), but departmental officials indicated it was meant to read 4T fall spawner (mobile gear) (M. Clemens, personal communication, June 7, 2018).

²⁷² DFO (2018). Terms of Reference. Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and Advice for the 2018 and 2019 Fisheries Regional Science Peer Review – Gulf Region. March 14–15, 2018, Moncton, New Brunswick. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/03_14-15b-eng.html

²⁷³ DFO (2018). Assessment of the Southern Gulf of St. Lawrence (NAFO Div. 4T) Spring and Fall Spawner Components of Atlantic Herring (*Clupea harengus*) with Advice for the 2018 and 2019 Fisheries. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/029. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_029-eng.html

²⁷⁴ McDermid, J.L., Swain, D.P., Turcotte, F., Robichaud, S.A. & Surette, T. (2018). Assessment of the NAFO Division 4T Southern Gulf of St. Lawrence Atlantic Herring (*Clupea harengus*) in 2016 and 2017. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/052. xiv + 122 p. http://dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_052-eng.html

²⁷⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			The 2019/20 work plan indicated work to develop and implement an HCR would continue into 2019/20. Last year, departmental officials indicated a CSAS process may occur in winter 2020 and implementation was currently planned for fall 2020 (N. Schjott, personal communication, June 25, 2019). In March 2020 there was a CSAS Science Response Process intended to review the status of the stock and harvest advice for 2020 and 2021. Although the terms of reference indicated various quantitative risk analyses of harvest options were requested, there was no mention of a harvest control rule. ²⁷⁶ The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ²⁷⁷ The 2020/21 fiscal year work plan indicates work will continue towards the development of a HCR this fiscal year. DFO indicates that they are planning on re-doing the HCR for the 4T fall spawner this fiscal year, as the previous HCR that was developed was not compliant with the precautionary approach. Plans include consulting the Gulf Small Pelagics Working Group on the draft HCR in the fall and then having the Gulf Small Pelagics Advisory Committee review (and potentially endorse) those findings in March 2021 (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).					
5	Gulf	Atlantic herring – 4T spring spawner; Critical	✓2017/18 ✓2018/19 ✓2019/20 ✓2020/21	HCRs will be evaluated and implemented by March 31, 2018.	Meetings are planned with stakeholders to develop HCR. The herring 4T stocks were previously noted for completion in 2017/18.	Will continue to develop HCR in 2019/20. Deliverable previously noted for completion in 2018/19. The precautionary approach will be addressed in the rebuilding plan.	Will continue development of HCR in 2020-21. HCR will be developed during consultations on rebuilding plan.	Delayed
Details: The 2018/19 work plan indicated that this deliverable was delayed (i.e., the 2017/18 work was not completed as intended). A CSAS process was held in March 2018 to assess Atlantic herring (<i>Clupea harengus</i>) from the southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and provide advice for the 2018 and 2019 fisheries, ²⁷⁸ but it did not evaluate potential HCRs. ^{279,280} No further CSAS processes occurred in 2018/19, but resource management meetings with working groups did occur as planned on December 13, 2018 and February 20, 2019 (N. Schjott, personal communication, August 1, 2019). In the work plan results for 2018/19 the department indicated this deliverable was met; the commitment or action as defined in the description of deliverables (2018/19) was completed without a tangible deliverable. ²⁸¹ But the department also noted in the 2019/20 work plans that this HCR deliverable was delayed. The 2019/20 work plan indicated work to develop and implement an HCR would continue into 2019/20. Last year (2019), departmental officials indicated a CSAS process may occur in winter 2020 and implementation was currently planned for fall 2020 (N. Schjott, personal communication, June 25, 2019). In March 2020 there was a CSAS Science Response Process intended to review the status of the stock and harvest advice for 2020 and 2021. Although the terms of reference indicated various quantitative risk analyses of harvest options were requested, there was no mention of a harvest control rule. ²⁸² The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ²⁸³ The 2020/21 fiscal year work plan indicates work will continue towards the development of an HCR this fiscal year. DFO indicates consultations on the HCR for the 4T spring spawner are planned for the fall with the Gulf Small Pelagics Working Group, where results from previous discussions with the industry will be presented. The HCR								

²⁷⁶ DFO (2020). Terms of Reference. Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2019 and Advice for the 2020 and 2021 Fisheries. Regional Science Peer Review – Gulf Region. March 12–13, 2020, Moncton, NB. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/03_12-13-eng.html

²⁷⁷ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

²⁷⁸ DFO (2018). Terms of Reference. Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and Advice for the 2018 and 2019 Fisheries Regional Science Peer Review – Gulf Region. March 14–15, 2018, Moncton, New Brunswick. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/03_14-15b-eng.html

²⁷⁹ DFO (2018). Assessment of the Southern Gulf of St. Lawrence (NAFO Div. 4T) Spring and Fall Spawner Components of Atlantic Herring (*Clupea harengus*) with Advice for the 2018 and 2019 Fisheries. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/029. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_029-eng.html

²⁸⁰ McDermid, J.L., Swain, D.P., Turcotte, F., Robichaud, S.A. & Surette T. (2018). Assessment of the NAFO Division 4T Southern Gulf of St. Lawrence Atlantic Herring (*Clupea harengus*) in 2016 and 2017. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/052. xiv + 122 p. http://dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_052-eng.html

²⁸¹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

²⁸² DFO (2020). Terms of Reference. Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2019 and Advice for the 2020 and 2021 Fisheries. Regional Science Peer Review – Gulf Region. March 12–13, 2020, Moncton, NB. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/03_12-13-eng.html

²⁸³ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
				will then go to the Gulf Small Pelagic Advisory Committee for review (and potential endorsement) in March 2021 (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).				
6	Pacific	Coho salmon – southern inside; Uncertain ^{tt}	✓2017/18	Undertake work to refine reference points based on new science information.				Completed
<p>Details: In 2017/18 work was undertaken to refine reference points. A CSAS process was held in September 2017, in part to determine reference points for Canadian Pacific Salmon Treaty southern coho management units. The meeting focused on evaluating the effects of exploitation rate changes on meeting conservation objectives across a range of smolt-to-adult survival rates that can be used to define status across three Pacific Salmon Treaty status categories (low, moderate and abundant) using a range of stock-recruitment (S-R) models that incorporated hatchery smolt-adult survival as a surrogate for population productivity.²⁸⁴ Stock-recruitment (S-R) parameters were derived for the individual Interior Fraser River (IFR) conservation units (CUs) and the Interior Fraser Coho (IFC) management unit (MU) as a whole and the Strait of Georgia (SOG) MU, as represented by the Black Creek indicator stock. But due to a lack of suitable data, no S-R analysis was conducted for the Lower Fraser River (LFR) MU. Retrospective and forward simulations were completed for the IFC MU and resulted in a set of decision tables that could be used to inform the selection of status benchmarks and management reference points (also known as operational control points) using hatchery survival as an index of productivity. But, due to lack of data, comparable analyses for the SOG and LFR MUs were not possible. The resultant report provides examples to illustrate how the results from the framework could be used to inform the development of management reference points for setting low, moderate and abundant status categories under the Pacific Salmon Treaty, but formal recommendations on reference points to use for management purposes were not provided. The report indicated that the selection of these reference points would require input from government, First Nations and stakeholders on acceptable probabilities of achieving conservation outcomes given the data gaps and uncertainties. In April and May 2018 DFO held consultations to seek feedback on the approach for identifying reference points (i.e., low, moderate or abundant) and determining corresponding exploitation rate caps (i.e., HCRs) for Canadian coho management units.²⁸⁵ Given the DFO Science process could only provide advice on developing reference points and associated ERs for the IFR MU, the engagement process predominantly focused on reviewing the proposed approach for IFR coho.²⁸⁶ The 2018 to 2019 annual report of the Wild Salmon Policy implementation plan indicated that the development of reference points and associated decision rules were ongoing and on track and that IFMPs will document them.²⁸⁷ Last year departmental officials indicated a workshop was held in May 2018 to use the science information from the 2017 CSAS process to develop management reference points, which were planned to be incorporated in the 2019/20 IFMP (N. Schjott, personal communication, June 25, 2019). Although this deliverable did not appear in the 2018/19 fiscal year work plan, in the work plan results for 2018/19 the department indicates in the HCR work plan results section that the deliverable (i.e., management reference points will be evaluated and implemented by March 31, 2019) is completed with a tangible deliverable that is available.²⁸⁸ However, in the additional work section it indicates the deliverable (i.e., “undertake work to refine reference points based on new science information”) was only met; commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable. The 2019 to 2020 Wild Salmon Policy implementation plan report confirms that the consultations on revised reference points and exploitation rate caps for IFR coho were completed and documented in the 2019/20 Southern BC salmon IFMP.²⁸⁹ The consultation report revealed little support for the proposed approach as DFO Science proposed it, and changes were recommended. The 2019/20 IFMP does not include a limit reference point (LRP) for any coho salmon stocks; only mixed-stock chum fisheries in Johnstone Strait have an LRP documented.²⁹⁰ However, the IFMP section pertaining to the precautionary approach (section 2.6) indicates Wild Salmon Policy benchmarks of biological status will inform the development of a precautionary approach to management of salmon resources and that benchmarks had been reviewed for conservation units of several of the southern inside coho stocks (Interior Fraser River, Georgia Strait Mainland, East Vancouver Island) and that consultations to seek feedback on the approach for identifying reference points (i.e., low, moderate or abundant) and determining corresponding exploitation rate caps (i.e., HCRs) for Canadian coho management units were held.²⁹¹ Table 13.3-1 in the IFMP identifies Pacific Salmon Treaty abundance-based exploitation rate limits on coho salmon stocks in fisheries harvesting southern BC coho in the low, moderate and abundant categories that</p>								

²⁸⁴ DFO (2018). Framework for Determination of Pacific Salmon Commission Reference Points for Status Determination and Associated Allowable Exploitation Rates for Select Canadian Southern Coho Salmon Management Units. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/016. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_016-eng.html

²⁸⁵ DFO (2018). Consultation on the Pacific Salmon Treaty Southern Coho Reference Points and Exploitation Rate Caps. <http://www.pac.dfo-mpo.gc.ca/consultation/smon/pst-coho-tsp/index-eng.html>

²⁸⁶ Hall, A. and Semmens, C. 2018. PST Southern Coho Reference Points and Exploitation Rate Caps: Engagement Report. Prepared by ESSA Technologies Ltd. for the Department of Fisheries and Oceans (DFO) and the Pacific Salmon Commission (PSC). v + 18pp.+ Appendices. <https://waves-vagues.dfo-mpo.gc.ca/Library/40712072.pdf>

²⁸⁷ DFO (2019). Wild Salmon Policy 2018 to 2022 Implementation Plan. Annual Report 2018 to 2019. <http://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2018-2019-eng.html#highlights>

²⁸⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

²⁸⁹ DFO (2020). Wild Salmon Policy 2018 to 2022 Implementation Plan: Annual Report 2019 to 2020. <http://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2019-2020-eng.html>

²⁹⁰ DFO (2019). Pacific Region Final Integrated Fisheries Management Plan. June 1, 2019 – May 31, 2020. Salmon. Southern BC. <https://waves-vagues.dfo-mpo.gc.ca/Library/40799104.pdf>

²⁹¹ DFO (2018). Consultation on the Pacific Salmon Treaty Southern Coho Reference Points and Exploitation Rate Caps. <http://www.pac.dfo-mpo.gc.ca/consultation/smon/pst-coho-tsp/index-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			appear to align with feedback obtained during consultation focused on the IFR MU and differ from the same table included in the previous IFMP. ²⁹² It could be clarified if the low limits will function as an LRP, and if so, they should be identified as such and details on them included in section 2.6 outlining the precautionary approach. Similarly, the exploitation rate caps should be identified as PA-compliant HCRs, if they are to function as such. Although unclear, it appears that the reference point and HCR work was been completed, and here it is assumed they have been selected (using information from the DFO Science advice and following consultations) and are implemented.					
7	Newfoundland and Labrador	Atlantic cod – 2J3KL; Critical	✓2017/18 ✓2018/19	Current timelines anticipate being able to develop HCRs in 2017/18 to inform the 2018 fishery management decisions. Targeting to complete work early in the 2018/19 early fiscal year.	Continued evaluation of HCR. HCRs for the Atlantic cod 2J3KL stock were previously noted for completion in 2017/18.			Delayed
			Details: A working group made up of a subset of the 2J3KLMNO Groundfish Advisory Committee has been established and tasked with the development of a rebuilding plan and associated HCR. As noted in the 2018/19 work plan, work to develop and implement an HCR was not completed in fiscal 2017/18 and therefore continued into 2018/19. DFO presented a draft HCR at the groundfish advisory meeting in April 2018, but it was still in draft form and was not used to inform the 2018 management decisions. In January 2019, a CSAS process was held to re-evaluate the LRP, where it was concluded the previous approach to adopting the LRP (as well as the LRP itself) remains valid. ²⁹³ The stock was assessed in March 2019, but although harvest advice was sought, HCR development or evaluation was not in the terms of reference for the meeting or discussed in the resultant report. ^{294,295} At the April 2019 2J3KLMNO Groundfish Advisory Committee meeting, the department indicated the next steps towards the rebuilding plan and associated HCR were to be determined. In the work plan results for 2018/19 the department indicated this deliverable was again delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ²⁹⁶ The stock was scheduled for a complete assessment in March 2020, but due to the COVID-19 pandemic, this meeting was cancelled and instead a Science Response Process was held on April 1–2, 2020 to provide 2020 harvest advice. Again, an HCR was not included in the terms of reference for this meeting. ²⁹⁷ The development of a rebuilding plan or HCR was not on the agenda for the April 2020 2J3KLMNO Groundfish Advisory Committee meeting, although when asked, departmental officials did indicate the rebuilding plan remained a priority. It is unclear what progress was made towards HCR development in fiscal 2019/20, and it is suspected no working group meetings have been held since early 2018. Section 2 of the 2020/21 fiscal year work plan, pertaining to rebuilding plans, indicates progress has been delayed and that to date, divergent stakeholder views have limited the progress in defining an HCR. This HCR-specific deliverable was not repeated in either the 2019/20 or 2020/21 fiscal year work plans. DFO confirms that a draft HCR has been developed and tabled for industry in 2018 but consensus among stakeholders has not been reached (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020).					
8	Quebec	Greenland halibut (turbot) – 4RST; Cautious	✓2019/20 ✓2020/21			Will complete development of HCR in 2019/20.	Carry-forward from 2019-20. Will complete development of HCR in 2020-21.	Delayed
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the precautionary approach framework for this stock is under development and consultations are underway to adopt it. ²⁹⁸ But it is unclear if this includes HCR development. The stock was assessed during a CSAS process held in February 2019, where the terms of reference indicated reference points were to be developed, but there is no mention of HCR evaluation. ²⁹⁹ The resultant Science Advisory Report indicated fishery managers at DFO, with support from the					

²⁹² DFO (2018). Integrated Fisheries Management Plan. June 1, 2018–May 31, 2019. Salmon. Southern B.C. <https://waves-vagues.dfo-mpo.gc.ca/Library/40694306.pdf>

²⁹³ DFO (2019). Evaluation of the Limit Reference Point for Northern Cod (NAFO Divisions 2J3KL). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/058. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_058-eng.html

²⁹⁴ DFO (2019). Terms of Reference. Stock Assessment of Northern Cod (Divs. 2J3KL). Regional Peer Review Process – Newfoundland and Labrador Region. March 26–29, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/03_26-29-eng.html

²⁹⁵ DFO (2019). Stock assessment of Northern Cod (NAFO Divisions 2J3KL) in 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/050. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_050-eng.html

²⁹⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

²⁹⁷ DFO (2020). Terms of Reference. Stock Assessment of Northern Cod (Divs. 2J3KL). Regional Peer Review Process – Newfoundland and Labrador Region. April 1–2, 2020, Virtual. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/04_01-02b-eng.html

²⁹⁸ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

²⁹⁹ DFO (2019). Terms of Reference. Assessment of the Gulf of St. Lawrence (4RST) Greenland Halibut. Regional Peer Review – Quebec Region. February 20–21, 2019, Mont-Joli, Quebec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_20-21-eng.html

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
			<p>Science Sector, are holding consultations with the fishing industry and other stakeholders to adopt the proposed upper stock reference (USR) point, and that HCR development will be part of those consultations.³⁰⁰ The stock status was re-evaluated during a CSAS Science Response Process held in December 2019, but no HCR evaluation was mentioned in any resulting reports.³⁰¹ This stock is included in the Gulf mixed-species groundfish IFMP (2017), which cannot be found by searching the DFO IFMP website,³⁰² but can be found via a search of the internet.³⁰³ This may be a mistake, given this IFMP is still considered to be under development according to the 2019/20 fiscal year work plan. Regardless, it does not indicate an HCR for the stock or intentions to develop one. However, the IFMP was last updated in 2017, prior to this deliverable development in 2019/20. The IFMP does indicate an overall medium-term objective of implementing all elements of the precautionary approach, including harvest decision rules, for all groundfish stocks. Last year, departmental officials clarified that this stock is likely to be included in two IFMPs, the Gulf Region multispecies groundfish IFMP and a single-stock IFMP developed by the Quebec Region. The latter IFMP will be specific to harvesters based in Quebec and will likely contain more detailed information on the stock than the multispecies groundfish IFMP for the Gulf Region. Last year it was indicated that the IFMP was drafted and awaiting approvals (N. Schjott, personal communication, June 25, 2019). The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).³⁰⁴ The 2020/21 fiscal year work plan indicates USR development will be completed this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO indicates that despite significant progress made at a February 2020 workshop, discussions remain difficult regarding the development of HCR to reduce the quota or exploitation rate given the current status of the stock (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).</p>						
9	Maritimes	Lobster – inshore LFA 27–33; Healthy	✓2019/20 ✓2020/21			Will complete HCR for 8 LFAs (27–33) in 2019/20.	Will complete development of HCR in 2020-21.	Complete	
			<p>Details: New reference points were accepted at a framework meeting for LFAs 27–33 in January 2018, according to documents available from a stock status update process held in February 2018 (the documents expected to be published from the January meeting are not yet available).³⁰⁵ In 2019, two CSAS processes were held to assess LFAs 27–32 (in February) and update the stock status in LFA 33 (in October), but neither of these meetings mention HCR evaluation in their terms of reference.^{306,307} The reports from the October meeting (LFA 33) are not yet available, but the Science Advisory Report from the February meeting (LFAs 27–32) includes removal reference for the healthy zone.³⁰⁸ The most recent (2018) results of the DFO Sustainability Survey for Fisheries did not indicate any removal references for any health status zone,³⁰⁹ indicating these are new. In February 2020, there was a CSAS process held to update the stock status for LFAs 27–32, but again there was no mention of HCR evaluation in the terms of reference and no reports are yet available.³¹⁰ The newly published IFMP (March 2020) includes removal references for the healthy zone for LFAs 27–33.³¹¹ The results of the 2019/20 fiscal year work plan indicated this deliverable is complete; a tangible deliverable is complete and available as a result.³¹² However, it was repeated in the 2020/21 fiscal year work plan, where it is indicated work will continue towards the completion of an HCR this fiscal year. DFO indicates that the HCRs for these stocks were adopted in July 2019 and have been fully implemented (Fisheries and Aquaculture Management, and Science, Maritimes Region, personal</p>						

³⁰⁰ DFO. (2019). Assessment of the Gulf of St. Lawrence (4RST) Greenland Halibut Stock in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/023. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_023-eng.html

³⁰¹ DFO. (2020). Update of Stock Status Indicators for Greenland Halibut in the Gulf of St. Lawrence (4RST) in 2019. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/005. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_005-eng.html

³⁰² DFO (2020). Integrated Fisheries Management Plans. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/index-eng.html>

³⁰³ DFO (2017). Integrated Fisheries Management Plan. Groundfish – Gulf of St. Lawrence (NAFO) Subdivisions 3Pn, 4Vn and Divisions 4RST – January 2017. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-div3pn-eng.html>

³⁰⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁰⁵ DFO (2018). Stock Status Update of American Lobster (*Homarus americanus*) in Lobster Fishing Areas (LFAs) 27–33. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/030. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_030-eng.html

³⁰⁶ DFO (2019). Terms of Reference. Stock Assessment of American Lobster in Lobster Fishing Areas (LFAs) 27–32. Regional Peer Review – Maritimes Region. February 11–12, 2019, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_11-12-eng.html

³⁰⁷ DFO (2019). Terms of Reference. Stock Status Update of American Lobster in Lobster Fishing Area (LFA) 33. Regional Peer Review – Maritimes Region. October 4, 2019, Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_04-eng.html

³⁰⁸ DFO (2020). Assessment of American Lobster (*Homarus americanus*) in Lobster Fishing Areas 27–32. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/026. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_026-eng.html

³⁰⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³¹⁰ DFO (2020). Terms of Reference. Stock Status Update of American Lobster in Lobster Fishing Areas (LFAs) 27–32. Regional Peer Review – Maritimes Region. February 11, 2020. Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_11-eng.html

³¹¹ DFO (2020). Lobster Fishing Areas 27 – 38 Integrated Fisheries Management Plan. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/2019/inshore-lobster-eng.html>

³¹² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
			communication, June 23, 2020). Thus, it is evaluated as complete here. Although deliverable quality is not evaluated in this review, quality of this HCR could be questioned given the HCR only contains removal references for one of three health status zones (healthy) and therefore could be considered incomplete. ³¹³						
10	Gulf	Atlantic salmon – Gulf Region; Uncertain ³¹⁴	✓2019/20			Will continue to develop HCR in 2019/20. Development of PA framework will continue in 2019/20 with consultations on proposed USR and decision rules for the recreational fishery in the Miramichi River system. Deliverable previously noted for completion in 2018/19. ³¹⁵	Will continue development of HCR in 2020-21. Consultations on options for the Miramichi River recreational fishery USR and HCR are planned for Fall 2020.	Delayed	
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates harvest decision rules have not been developed. The respondent does indicate that a USR and removal reference for each stock status zone are to be established after discussions with First Nations and stakeholders and that this work was in progress. ³¹⁶ It also indicates the IFMP is currently being updated and could be completed in spring of 2020 but that this was not confirmed. The IFMP currently in use (IFMP – Atlantic salmon in Salmon Fishing Areas 15 to 18 (2008 to 2012)) is not available online and there is no updated version available yet. The survey indicates the stock was not harvested within approved levels in 2018 and indicates this is because it cannot be verified, given there is no reporting requirement in the (catch and release) recreational fishery and incomplete information about catches in the Food, Social and Ceremonial fisheries. These issues will no doubt make establishment of HCR challenging. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ³¹⁷ The 2020/21 fiscal year work plan indicates that work will continue towards the development of an HCR this fiscal year and that consultations on options for the Miramichi River recreational fishery USR and HCR are planned for fall 2020. DFO confirms that the Region will be consulting on and working through options for the precautionary approach to the recreational fishery in the Miramichi watershed (including USR and HCR) this fall through a special meeting of a new working group comprised of First Nations and various stakeholders (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).						
11	Newfoundland and Labrador	Snow crab – 2J, 3KLNO and 3Ps; Critical, Cautious	✓2019/20 ✓2020/21			Will begin to develop HCR in 2019/20.	Will continue development of HCR in 2020-21.	Delayed	
			Details: A CSAS process was held in June 2018 to develop a precautionary approach framework for snow crab in the Newfoundland and Labrador Region. The research document published from this meeting indicated LRPs were established and includes USRs and HCRs proposed by scientists. ³¹⁸ An additional CSAS process was held in February 2019, ³¹⁹ and the CSAS Science Advisory Report included: a) details about the LRPs and stock statuses in relation to them; b) upper removal references, HCRs and USRs that have been proposed but have not been adopted into the framework; and c) USRs remained under development. ³²⁰ According to the proceedings from the February 2019 meeting, not all fishers in attendance at the meeting were in						

³¹³ DFO policy requires a removal reference for all three health status zones (DFO 2009). Although these lobster stocks are considered healthy and have been for the entire time series used to determine health status, this does not mean health status will not decline in the future. If that is the case, it will be much more difficult to come to a consensus on harvest control rules or removal references for the cautious or critical zone once the stock has declined from the healthy zone (e.g., see comments by DFO Gulf Region regarding the HCR for Greenland halibut in NAFO 4RST, above). Harvest control rules are supposed to be pre-agreed rules on how to harvest a stock under all health statuses, specifically to avoid such a scenario.

³¹⁴ Stock status of Atlantic salmon in the Gulf region is reported as “uncertain” in the 2018 results of the DFO Sustainability Survey for Fisheries; however, the comments indicate that in 2018 most assessed stocks (i.e., rivers) were in the critical zone, with the exception of two that were in the cautious zone, and with some uncertainty about the status of one of these rivers in the cautious zone.

³¹⁵ Although the 2019/20 work plan has a footnote indicating this deliverable was previously noted for completion in 2018/19, this is not the case. Atlantic salmon is listed in both 2017/18 and 2018/19 fiscal year work plans, but deliverables were related to LRP development (2017/18), IFMP updating (2017/18) and IFMP posting (2018/19), not HCR development.

³¹⁶ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³¹⁷ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³¹⁸ Mullooney, D., Baker, K., Pedersen, E. & Osborne, D. (2018). Basis for a Precautionary Approach and Decision Making Framework for the Newfoundland and Labrador Snow Crab (*Chionoecetes opilio*) Fishery. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/054. iv + 66 p. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_054-eng.html

³¹⁹ DFO (2019). Terms of Reference. 2HJ3KLNOP4R Snow Crab Assessment. Regional Peer Review Process – Newfoundland and Labrador Region. February 19–21, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_19-21-eng.html

³²⁰ DFO (2019). Assessment of Newfoundland and Labrador (Divisions 2HJ3KLNOP4R) Snow Crab. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/041. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_041-eng.html

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
			<p>agreement with the inclusion of the precautionary approach framework or bullets related to it in the resultant Science Advisory Report.³²¹ Several participants expressed concerns the proposed precautionary approach framework was even presented. It was clarified by DFO that LRPs defining the critical zone were established by a peer-review CSAS process; that USRs defining the cautious and healthy zones remain under development; and that the proposed cautious and healthy zones (i.e., zones created by a proposed USR) would not be used by DFO Resource Management for the 2019 fishing season. Several participants stated that Resource Management should consult harvesters to finalize the PA framework. The proceedings indicate that DFO Science noted the proposed PA framework included the best science advice available and that proposed cautious and healthy zones would be included in all science advice going forward. Snow crab in the region were assessed again at a CSAS meeting held in February 2020,³²² but the reports from this process are not yet available publicly. The IFMP for the stock, which was posted online in May 2019, indicates industry consultations on the precautionary approach framework were held in fall 2018 and a number of concerns were raised.³²³ It indicates that during the winter of 2019 a working group was formed and a meeting was held to discuss HCRs and the USRs but that further discussion was required. The IFMP indicates it is anticipated that the precautionary approach will be finalized and accepted in 2020. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).³²⁴ The 2020/21 fiscal year work plan indicates work will continue towards the development of an HCR this fiscal year. DFO indicates that industry has expressed divergent views on reference points but that progress continues towards the development of HCRs in 2020/21 (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020).</p>						
1 2	Quebec	Snow crab – coastal (12A, 12B, 12C, 13, 14, 15, 16, 16A, 17); Uncertain	✓2019/20 ✓2020/21			Will begin to develop HCR in 2019/20. Development may be completed in 2020/21.	Carry-forward from 2019-20. Will begin development of HCR in 2020-21	Delayed	
<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the precautionary approach components are currently under development, with an implementation target of 2020/2021.³²⁵ A CSAS process was held in February 2019 to assess the stocks, but HCR evaluation was not part of the terms of reference³²⁶ and therefore is not mentioned in the resultant report.³²⁷ The stock was most recently assessed in February 2020, but again HCR evaluation was not part of the terms of reference.³²⁸ Reports from this process are not yet available. The IFMP for the stocks, last modified in June 2019, indicates that decision rules are in place, based in part on indicators that allow the exploitation rate to be adjusted based on the productivity of the stock and its capacity to support exploitation.³²⁹ However, it then indicates that the precautionary approach for the snow crab fishery in the inshore areas of the northern Gulf of St. Lawrence is being developed. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).³³⁰ The 2020/21 fiscal year work plan indicates HCR development will begin this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO indicates that HCR work is conditional on DFO Science being able to</p>									

³²¹ DFO (2020). Proceedings of the Newfoundland and Labrador Regional Peer Review of the 4R Iceland Scallop Assessment, and the 2HJ3KLNOP4R Snow Crab Assessment; February 19–21, 2019. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2020/003. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2020/2020_003-eng.html

³²² DFO (2020). Terms of Reference. 2HJ3KLNOP4R Snow Crab Assessment. Regional Peer Review Process – Newfoundland and Labrador Region. February 25–27, 2020, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_25-27-eng.html

³²³ DFO (2019). Integrated Fisheries Management Plan. Snow crab - Newfoundland and Labrador Region. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/index-eng.html>

³²⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³²⁵ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³²⁶ DFO (2019). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 12–13, 2019, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_12-13-eng.html

³²⁷ DFO (2019). Assessment of the Estuary and Northern Gulf of St. Lawrence (Areas 13 to 17, 12A, 12B, 12C and 16A) Snow Crab Stocks in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/047. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_047-eng.html

³²⁸ DFO (2020). Terms of Reference. Assessment of the Estuary and Northern Gulf of St. Lawrence Snow Crab Stocks. Regional Peer Review – Quebec Region. February 11–12, 2020, Mont-Joli, Québec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_11-12-eng.html

³²⁹ DFO (2019). Integrated Fisheries Management Plan. Snow Crab – Estuary and Northern Gulf of St. Lawrence Inshore Areas (12A, 12B, 12C, 13, 14, 15, 16, 16A and 17). <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/snow-crab-neiges-eng.html#toc2>

³³⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			make progress in the development of a model and indicators but that the objective is to start discussions in 2020/21, for at least some of the nine stocks in the stock group (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).					
1 3	Quebec	Atlantic halibut – 4RST; Uncertain	✓2019/20 ✓2020/21			Will begin to develop HCR in 2019/20. Development may be completed in 2020/21.	Carry-forward from 2019-20. Will begin development of HCR in 2020-21.	Delayed
<p>Details: The stock was last assessed in February 2019, but the terms of reference for the meeting do not indicate intentions to evaluate a HCR.³³¹ LRP development was intended to occur according to the terms of reference, but it was not developed at the meeting, and the intention to develop it over the “medium term” was mentioned in the resultant Science Advisory Report.³³² The proceedings from the meeting indicate participants agreed existing research indices (DFO bottom trawl RV surveys and sentinel survey) are useful and have potential in determining reference points for the precautionary approach.³³³ It also identified reference points and the precautionary approach as one of the issues for which efforts will be invested. According to the advisory report, the stock will next be assessed in 2021 and there was no intention to assess it in the intervening year (2020). The stock does not currently have an analytical assessment model and instead is assessed using trends in survey indices (two DFO bottom trawl RV surveys and sentinel survey). A longline survey and tagging program for the entire Gulf of St. Lawrence was initiated as a collaboration between DFO and industry in 2017. It should provide a more complete survey dataset (i.e., more appropriate for use as an index of abundance than bottom trawl survey for this species) to use in the development of an analytical model that will support development of the precautionary approach framework for the stock. It is unclear if this is the reason reference points were not developed and deferred to the “medium” term or how this impacts HCR development and timelines. But, the results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).³³⁴ The 2020/21 fiscal year work plan indicates HCR development will begin this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO confirms that no progress was made in 2019/2020 towards HCR development but that discussions will begin this year (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).</p>								
1 4	Pacific	Red sea urchin – Pacific region; Healthy	✓2019/20 ✓2020/21			Will begin to update HCR in 2019/20.	Will continue to update HCR in 2020-21.	Ongoing
<p>The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates harvest decision rules for red sea urchin have been developed and implemented but not evaluated.³³⁵ However, it cites a 2014 research document to support this answer, indicating these harvest decision rules are likely older than the intended work in the 2019/20 fiscal year work plan.³³⁶ The stock was last assessed in February 2019, and the resultant Science Advisory Report includes details on provisional reference points and recommends a new LRP and USR. However, the report does not mention HCR development or evaluation.³³⁷ It does indicate a new model was developed and used to project forward 100 years: the results were used to create decision tables showing the probability of breaching reference points after varying time periods and for a range of harvest rates (2–24%) to inform Fisheries Management decisions. This is helpful advice to inform decision making but not the same as detailed, pre-agreed HCRs or a more general harvest strategy that outlines removal rate reference limits for each stock status zone. Furthermore, although the 2019/20 IFMP notes the February 2019 CSAS process occurred, it indicates there is currently no limit or upper stock reference points in place for the commercial red sea urchin fishery in BC, so the new approach is yet to be implemented.³³⁸ It notes that the research was accepted and that recommendations from the report will be incorporated into the management of the fishery starting next season after further consultation with First Nations and industry. It is unclear if that will involve a new HCR. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible</p>								

³³¹ DFO (2019). Terms of Reference. Assessment of the Gulf of St. Lawrence (4RST) Atlantic Halibut. Regional Peer Review – Quebec Region. February 18–19, 2019, Mont-Joli, Quebec. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_18-19-eng.html

³³² DFO (2019). Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/038. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_038-eng.html

³³³ DFO (2019). Proceedings of the Regional Peer Review of the Stock Assessment of Gulf of St. Lawrence (4RST) Atlantic Halibut. Can. Sci. Advis. Sec. Proc. Ser. 2019/013. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2019/2019_013-eng.html

³³⁴ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³³⁵ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³³⁶ Leus, D., Campbell, A., Merner, E., Hajas, W.C. and Barton, L.L. (2014). Framework for Estimating Quota Options for the Red Sea Urchin (*Strongylocentrotus franciscanus*) Fishery in British Columbia Using Shoreline Length and Linear Density Estimates. DFO Can. Sci. Advis. Sec. Res. Doc. 2013/094. vi + 68 p. <https://waves-vagues.dfo-mpo.gc.ca/Library/361328.pdf>

³³⁷ DFO (2019). The identification of provisional reference points and harvest rate options for the commercial Red Sea Urchin (*Mesocentrotus franciscanus*) fishery in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/036. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_036-eng.html

³³⁸ DFO (2019). Pacific Region Integrated Fisheries Management Plan Red Sea Urchin. August 1, 2019 to July 1, 2020. <https://waves-vagues.dfo-mpo.gc.ca/Library/40797879.pdf>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			deliverable. ³³⁹ The 2020/21 fiscal year work plan indicates work will continue to update the HCR this fiscal year. However, DFO indicates no changes to HCRs for the 2020/21 season (Fisheries and Aquaculture Management, and Science, Pacific region, personal communication, June 23, 2020). Here the deliverable is evaluated as ongoing, assuming some HCR work has been done given the internal evaluation of “met” without a tangible deliverable and the intentions to continue progress, despite no changes expected in 2020/21.					
15	Pacific	Albacore tuna – north Pacific; Healthy	✓2019/20 ✓2020/21			Will begin update of HCR in 2019/20.	Will continue to update HCR in 2020-21.	Ongoing
<p>Details: DFO coordinates management of this stock with the USA under the Pacific Albacore Tuna Treaty and with multiple other nations under the Inter-American Tropical Tuna Commission (IATTC) and the Western and Central Pacific Fisheries Commission. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the LRP is the only DFO precautionary approach component established.³⁴⁰ However, the respondent does indicate harvest decision rules have been developed, implemented and evaluated, citing obligations under international agreements to ensure that total fishing effort does not exceed 2002–2004 levels.³⁴¹ This resolution, although likely appropriate, does not constitute an HCR or even a more general harvest strategy under the DFO precautionary approach but rather a maximum overall fishing effort. Furthermore, it is concerning that despite this the most recent IFMP (2019/20) indicates that there is no restriction on the number of licences available for harvest in the high seas or Canadian waters and that there is no limit to the total allowable catch in Canada’s commercial Pacific albacore tuna fishery.³⁴² Yet the IFMP does reiterate that fishing effort is maintained at or below levels specified in the IATTC resolution. The IFMP indicates the stock is assessed approximately every three years by the Albacore Working Group (ALBWG), part of the of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC).³⁴³ It also indicates that the ALBWG is working to advance a management strategy evaluation (MSE) for North Pacific Albacore Tuna that will evaluate possible target reference points and alternative harvest control rules and support the application of the precautionary approach at the international level. According to the IFMP, management objectives have been established and a suite of candidate reference points have been proposed through three Albacore Tuna MSE workshops involving managers, scientists and stakeholders. The working group has been working on evaluation of performances of these proposed biological reference points and harvest control rules through the MSE processes. The working group met from February 26 to March 4, 2019, where a working paper with the results of the first round of modelling were presented.^{344,345} A stock assessment was conducted in April 2020 over webinar by the ALBWG. The results of the stock assessment will be finalized by the ISC at their annual meeting in July 2020, and in winter 2021 the second round of MSE modelling is scheduled to be reviewed at the 5th Albacore MSE workshop (Science, National Capital Region, personal communication, June 23, 2020). The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.³⁴⁶ The 2020/21 fiscal year work plan indicates Canada will continue the update of the HCR this fiscal year. This will be accomplished through the continuation of the MSE process (Science, National Capital Region, personal communication, June 23, 2020).</p>								
16	Pacific	Pacific herring – Haida Gwaii; Critical Pacific herring – Prince Rupert District; Cautious	✓2019/20 ✓2020/21			Will begin update of HCR in 2019/20.	Will continue to update HCR in 2020-21.	Ongoing

³³⁹ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁴⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³⁴¹ IATTC (2005). Inter-American Tropical Tuna Commission 73rd Meeting, Lanzarote (Spain), 20-24 June. Resolution C-05-02. Resolution on Northern Albacore Tuna. https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-05-02-Active_Northern%20albacore%20tuna.pdf

³⁴² DFO (2020). Pacific Region Integrated Fisheries Management Plan. April 1, 2019 – March 31, 2020. Albacore Tuna. <https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf>

³⁴³ DFO (2020). Pacific Region Integrated Fisheries Management Plan. April 1, 2019 – March 31, 2020. Albacore Tuna. <https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf>

³⁴⁴ Tommasi, D. and Teo, S. (2020). Summary of Results for the North Pacific Albacore Tuna (*Thunnus alalunga*) Management Strategy Evaluation. http://isc.fra.go.jp/pdf/ALB/ISC19_ALB_1/ISC19-ALBWG-01_01.pdf

³⁴⁵ ISC (2019). ISC/19/ANNEX/06. Annex 6. 19th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. Taipei, Taiwan. July 11–15, 2019. Report of the ALBWG Working Group Workshop, July 2019. http://isc.fra.go.jp/pdf/ISC19/ANNEX06_Report_of_the_ALBACORE_Working_Group_Workshop_February2019.pdf

³⁴⁶ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status	
		Pacific herring – Central Coast; Cautious	<p>Details: In August 2019 a CSAS Science Response Process (SRP) was held to evaluate management procedures for Pacific herring (<i>Clupea pallasii</i>) in the Haida Gwaii, Prince Rupert District and Central Coast management areas of British Columbia developed under Management Strategy Evaluation (MSE). The resultant Science Response report summarizes progress to date and next steps.³⁴⁷ It indicates that LRP were developed and accepted by scientists at a meeting in 2017 and that closed-loop feedback simulation testing of candidate management procedures, including HCRs, was recommended as a next step to evaluate the consequences of LRP choice for each area. However, the selection of preferred management procedures requires a full set of measurable objectives for conservation and the fishery (e.g., related to catch, catch variability and socio-cultural goals) that have yet to be developed. Therefore, at the 2019 CSAS SRP (which are smaller DFO-only peer review processes), only core fisheries management objectives and potential stock-specific objectives proposed by DFO at the Integrated Herring Harvest Planning Committee in May 2017 were included in this first cycle of MSE. The report noted that DFO will continue to collaborate with coastal First Nations to develop area-specific objectives specific to Food, Social and Ceremonial fisheries and spawn-on-kelp fisheries. These and additional objectives may be captured within the Heiltsuk-DFO Joint Fisheries Management Plan for Herring in the Central Coast and through the development of a Rebuilding Plan for Haida Gwaii Herring (under development through a partnership between the Council of Haida Nation, DFO and Parks Canada). Lastly, the summary indicated DFO will continue to engage with the herring industry, government and non-government organizations to describe broader objectives related to conservation, economics and access. The report provides results indicating the relative performance of candidate management procedures for the Haida Gwaii, Prince Rupert District and Central Coast management areas against the core conservation objective – to avoid with a high probability (75–95%) stocks declining to the LRP over three herring generations. Further development and ranking of the other objectives is needed in order to eliminate undesirable choices and provide decision-makers with a tractable set of trade-off choices. The report indicates that mechanisms for ranking objectives can include workshops and explicit identification of existing harvest or access priorities. It is suspected that discussions pertaining to additional objectives were ongoing in 2019/20 and are planned to continue in 2020/21. In September 2019, another CSAS SRP was held to update the status of the stocks and provide harvest advice for 2019/20. The report from this process indicated harvest advice was informed by multiple methods, including newly tested management procedures that passed the core conservation objective.³⁴⁸ The most recent IFMP (2019/20) reiterates that engagement with rights-holders and stakeholders will be ongoing in 2020/21 and provides a synopsis of progress to date with the MSE and alignment of Pacific herring management with the DFO precautionary approach.³⁴⁹ The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.³⁵⁰ The 2020/21 fiscal year work plan indicates work will continue to update the HCRs this fiscal year. DFO confirms that while a version of the HCR was selected for each area for application in 2019/20, the work of selecting an HCR for each area is “ongoing” given the need for more simulation work and consultations with First Nations and industry partners (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).</p>						
17	Pacific	Giant red sea cucumber – Pacific; Healthy	✓ 2019/20 ✓ 2020/21			Will begin to update HCR in 2019/20.	Will continue to update HCR in 2020-21.	Delayed	
			<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SFF) indicates that harvest decision rules have been developed and implemented for the stock but not evaluated,³⁵¹ citing science advice on harvest decision rules from 2008 and documentation of DFO management’s interpretation of the advice and resultant HCR in the IFMP.^{352, 353} Given that the advice pertaining to these harvest decisions rules is dated, it is likely this is not the HCR referred to in the 2019/20 fiscal year work plan. The IFMP describes various harvest rates are applied to management areas based on the advice developed in 2008 and several other management changes since it was provided. However, harvest rates do not appear to be available for all stock status zones. According to the SFF respondent, there are removal references for the healthy zone (an exploitation rate 3.5–10.3% of the estimated biomass in a subarea) and critical zone (no harvest permitted), defined using the old LRP, but no removal references for the cautious zone. This is likely related to there being no USR to define the boundary of the cautious and healthy zones. According to the DFO 2019/20 fiscal year work plan, the LRP is also being revised. The IFMP does not discuss HCRs but does indicate generally that science work is ongoing. DFO Science is analyzing the entire time series of data from the Experimental Fishing Areas (1997 to 2015; program halted in 2017), and the IFMP indicates that results will be</p>						

³⁴⁷ DFO (2020). Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in Haida Gwaii, Prince Rupert District, and the Central Coast Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/003. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_003-eng.html

³⁴⁸ DFO (2020). Stock Status Update with Application of Management Procedures for Pacific Herring (*Clupea pallasii*) in British Columbia: Status in 2019 and Forecast for 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/004. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_004-eng.html

³⁴⁹ DFO (2019). Pacific Region Integrated Fisheries Management Plan. November 26, 2019–November 6, 2020. Pacific Herring. <https://waves-vagues.dfo-mpo.gc.ca/Library/40851448.pdf>

³⁵⁰ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁵¹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³⁵² Hand, C., Hajas, W., Duprey, N., Lothead, J., Deault, J. and Caldwell, J., (2008). An Evaluation of Fishery and Research Data Collected during the Phase 1 Sea Cucumber Fishery in British Columbia, 1998 to 2007. DFO Cdn. Sci. Advis. Sec. Res. Doc. 2008/065. http://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2008/2008_065-eng.htm

³⁵³ DFO (2019). Pacific Region Integrated Fisheries Management Plan. Sea Cucumber by Dive. October 1, 2019 to September 30, 2020. <https://waves-vagues.dfo-mpo.gc.ca/Library/40815870.pdf>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			published in a CSAS Research Document in late 2019. It is unclear what CSAS process would have led to this publication, as according to the schedule website, the last CSAS process involving sea cucumbers was in 2010; ³⁵⁴ there were no CSAS process held in 2019, and none are currently planned for 2020. The IFMP also indicates that DFO Science is now moving towards a new, multispecies approach for providing science advice. It indicates DFO Science is developing a multispecies benthic invertebrate survey protocol and will promote an ecosystem approach to stock assessment and gain efficiencies by combining single species survey protocols for the commercial dive fisheries. It is also intended to allow assessment of stock status relative to the three health status zones in the precautionary approach framework. The IFMP noted a CSAS research document with peer reviewed recommendations on this approach is expected to be delivered by fall 2020. However, DFO Science is now targeting next fiscal year (2021/22) for the multispecies benthic survey protocol, but plans remain uncertain due to COVID-19 (Science, National Capital Region, personal communication, June 23, 2020). The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ³⁵⁵ The 2020/21 fiscal year work plan indicates work will continue to update the HCR this fiscal year. DFO confirms that DFO Science's work on recommended harvest rates was temporarily delayed but will resume this fiscal year. Once work is complete, DFO Science will present recommended harvest rates in a CSAS Research Document that will be vetted through the CSAS Regional Peer Review Process (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).					
18	Pacific	Yelloweye rockfish – outside; Healthy	✓2019/20 ✓2020/21			Will begin update of HCR in 2019/20.	Will continue to update HCR in 2020-21.	Ongoing
<p>Details: A CSAS process was held in October 2019 to evaluate potential rebuilding strategies for the yelloweye rockfish outside population (OYE). The resultant Science Advisory Report provided advice on rebuilding the stock formulated using closed-loop simulation modelling similar to Management Strategy Evaluation (MSE), testing the performance of a set of candidate management procedures (MPs) that included various HCRs, relative to stated rebuilding objectives.³⁵⁶ Specifically, three assessment methods were used in combination with different HCRs or implementation error scenarios to create a set of candidate MPs that were simulation-tested for each of the four operating model scenarios for north and south areas independently. All operating model scenarios implied that, coast-wide, the stock is currently above the LRP even though the stock biomass had declined rapidly over the past two generations by 49–71% in the north, and by 57–79% in the south. The report concluded that several potential MPs that were identified could increase or stabilize OYE biomass in both north and south areas. However, it is not possible at this time to recommend a specific MP for each area without further guidance on fishery objectives and timelines from managers, First Nations and fishery stakeholders, which should be sought. However, an interim MP could be selected and implemented from the MPs evaluated in the short term while that work is done. The rebuilding plan was updated in 2020, indicating an increase in the mortality cap for the stock based on updated science information, from 100 to 194 t in 2020/21.³⁵⁷ The rebuilding plan indicates further discussions with stakeholders and Indigenous groups are required to determine a target biomass given that the current conservation objectives of growing the stock above the LRP have already been satisfied. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.³⁵⁸ The 2020/21 fiscal year work plan indicates work will continue to update the HCR this fiscal year. DFO indicates that, as noted during consultation on the 2020/21 IFMP, science advice was unpublished at the time of drafting the IFMP, and management changes would be considered once science advice is publicly available.³⁵⁹ In balancing timely and responsible management that reflects the best available science, interim mortality caps are outlined in the IFMP/rebuilding plan to satisfy current rebuilding plan conservation objectives. Work to refine rebuilding objectives and management measures that will continue to satisfy mortality caps and eventually transition from management under a rebuilding plan to management under the standard IFMP process will occur throughout 2020 and 2021 (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). Presumably, this also means continuation of the closed-loop simulation modelling once objectives are defined, along with selection of an MP and associated HCR after considering the results.</p>								

³⁵⁴ DFO (2010). Terms of Reference. Update to the Assessment Framework for the Pink and Spiny Scallop (*Chlamys rubida*, *C. hastata*) Dive Fishery in Waters off the West Coast of Canada. Assessing Potential Habitat Impacts of Small-scale, Intertidal Geoduck Clam (*Panopea generosa*) Aquaculture. Assessment Update of Sea Cucumber (*Parastichopus californicus*) in British Columbia. Assessment Update of Manila Clam in the Central Coast of British Columbia and Evaluation of the Area 7 Manila Clam Fisheries Management Strategy. Assessment of Inshore Shrimp Stocks along the Coast of British Columbia. Pacific Regional Advisory Process. November 30 – December 2, 2010, Nanaimo, British Columbia. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2010/11/11_30-02-eng.html

³⁵⁵ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁵⁶ DFO (2020). Evaluation of Potential Rebuilding Strategies for Outside Yelloweye Rockfish in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/024. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_024-eng.html

³⁵⁷ DFO (2020). Appendix 9: Rebuilding Plans for Groundfish Species, in Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

³⁵⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁵⁹ Now available as of the drafting of this report; see first footnote in details section of the Yelloweye rockfish – outside record for the report title and URL to access it.

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
19	Pacific	Sablefish – Pacific; Cautious	✓2019/20			Will begin update of HCR in 2019/20.		Complete
<p>Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SFF) indicates the stock has harvest decision rules that have been developed, implemented and evaluated.³⁶⁰ The rules are conducted through Management Strategy Evaluation (MSE), which has been taking place since 2009, with updates in 2011 and 2014.³⁶¹ In 2016 the core operating models were revised, and in 2017 a process was held to evaluate the performance of the current management procedure (MP), which included a HCR, and nine alternative MPs against five plausible operating model scenarios that represent alternative hypotheses about stock productivity and spawning biomass. In September 2019, there was a CSAS Science Response Process held to update the core models again, following the three-year schedule, and provide advice about the performance of the current MP, as well as possible alternatives including measures aimed at reducing sub-lethal mortality.³⁶² The resultant advisory report from this process ranked candidate MPs under the reference and robustness operating models based on performance against fishery objectives.³⁶³ The 2020/21 IFMP also indicates that candidate MPs to reduce sub-lethal mortality have been evaluated via an MSE process.³⁶⁴ It indicates DFO has formed a working group drawing from existing advisory bodies comprising the key sectors encountering the highest frequency of sub-lethal sablefish mortality. This group is meant to collaborate on the development of management measures aimed at reducing the frequency and volume of sub-lethal sablefish bycatch. The IFMP presented the 2020/21 Total Allowable Catch (TAC) and noted that it is determined annually using information from an annual fishery-independent sablefish survey and the commercial Sablefish fishery. These indices are used to estimate sablefish biomass, which is incorporated into a harvest control rule, presumably one of those tested in the 2019 MSE update. The results of the 2019/20 work plan evaluation indicate this deliverable is completed; a tangible deliverable is complete and available as a result.³⁶⁵</p>								
20	Pacific	Hake – Pacific; Healthy	✓2019/20 ✓2020/21			Will begin development of HCR in 2019/20.	Canada will continue development of management procedure through international MSE meeting of Joint Management Committee.	Ongoing
<p>Details: Pacific hake is co-managed with the United States according to the Pacific Whiting Treaty. This agreement creates a process through which scientists and fisheries managers from both countries recommend the total catch of Pacific hake each year, with input from stakeholders from both countries.³⁶⁶ The agreement was signed in 2003 and first implemented in 2012, creating four bodies to assist both governments to jointly manage the stock: 1) Joint Management Committee (JMC) responsible for determining the Total Allowable Catch (TAC) of hake/whiting every year, 2) an industry Advisory Panel (AP) responsible for reviewing the management of the fishery and making recommendations to the JMC regarding the TAC, 3) a Joint Technical Committee (JTC) responsible for annually providing the JMC with a stock assessment that includes scientific advice, and 4) the Scientific Review Group (SRG) that is responsible for providing independent peer review of the work of the JTC. In February 2020 the SRG reviewed the JTC draft 2020 assessment and ongoing Management Strategy Evaluation (MSE), a process that will presumably be used to develop a new HCR.³⁶⁷ The 2020 assessment report indicates the default harvest policy previously existing was applied again in 2020 to provide harvest advice. However, the report indicates MSE work that was first initiated in 2013 is being revisited, and research to improve future MSE efforts through the Pacific Hake MSE Working Group is outlined in the report.³⁶⁸ The SRG indicated in its review that they are encouraged by the progress made in developing models for the MSE and highlighted the need for further work</p>								

³⁶⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

³⁶¹ DFO (2017). Evaluating the Robustness of Management Procedures for the Sablefish (*Anoplopoma fimbria*) Fishery in British Columbia, Canada for 2017–18. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2017/017. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2017/2017_017-eng.html

³⁶² DFO (2019). Terms of Reference. An Evaluation of the Performance of Alternative Management Procedures for the Sablefish Fishery in British Columbia, Canada. Regional Science Response Process – Pacific Region September 23, 2019, Nanaimo, BC. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/09_23-eng.html

³⁶³ DFO (2020). Evaluating the Robustness of Candidate Management Procedures in the BC Sablefish (*Anoplopoma fbrria*) Fishery for 2019–2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/025. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScRS/2020/2020_025-eng.html

³⁶⁴ DFO (2020). Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

³⁶⁵ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

³⁶⁶ DFO (2020). Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

³⁶⁷ NOAA (2020). Pacific Hake/Whiting Treaty: Scientific Review Group Meeting. <https://www.fisheries.noaa.gov/event/pacific-hake-whiting-treaty-scientific-review-group-meeting>

³⁶⁸ Grandin, C.J., K.F. Johnson, A.M. Edwards and A.M. Berger. (2020). Status of the Pacific Hake (whiting) stock in U.S. and Canadian waters in 2020. Prepared by the Joint Technical Committee of the U.S. and Canada Pacific Hake/Whiting Agreement, National Marine Fisheries Service and Fisheries and Oceans Canada. 273p. <https://www.fisheries.noaa.gov/resource/document/2020-pacific-hake-whiting-stock-assessment>

#	Region	Stock and health status zone	Develop/ evaluate HCR	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>on objectives related to conservation of the Pacific hake stock, variability in yield and total yield.³⁶⁹ The JMC met via video conference on March 11–12, 2020, but resultant reports are not yet available on the website to determine if any next steps in the MSE are outlined.³⁷⁰ The 2020/21 DFO IFMP does not include the management measures, including the TAC, for the offshore Pacific hake 2020 season.³⁷¹ It indicates they will be released in-season in an addendum to the IFMP, with industry consultations on the addendum to be initiated in February 2020. The results of the 2019/20 work plan evaluation indicate this deliverable (HCR development) was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.³⁷² The 2020/21 fiscal year work plan indicates work will continue towards the development of an HCR this fiscal year. Specifically, Canada will continue development of management procedure through the international MSE meeting of the JMC. DFO indicates the JMC meeting agenda was abridged due to COVID-19 concerns and the MSE was not discussed (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). DFO confirms the MSE process is still ongoing, but there is no date on when the MSE will be completed and an HCR developed. DFO reiterated that the default harvest policy previously existing for Pacific hake has a default SPR40%-40-10 HCR as specified in the Joint Canada-US Treaty document. The default rule is used for harvest advice, with TAC decisions subject to domestic jurisdictions (Science, National Capital Region, personal communication, June 23, 2020).</p>					
2 1	Quebec	Cod 4RS-3Pn Critical	✓2020/21				Will begin to revise HCR in 2020-21.	

† denotes status assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results.

†† denotes uncertain status assignments when stocks were not included in either the Sustainability Survey for Fisheries dataset or Oceana Canada's Fishery Audit dataset.

³⁶⁹ SRG (2020). Joint US-Canada Pacific Hake/Whiting Scientific Review Group Report for 2020. <https://www.fisheries.noaa.gov/resource/document/2020-pacific-hake-whiting-scientific-review-group-report>

³⁷⁰ NOAA (2020). Pacific Hake/Whiting Treaty: Joint Management Committee Meeting. <https://www.fisheries.noaa.gov/event/pacific-hake-whiting-treaty-joint-management-committee-meeting>

³⁷¹ DFO (2020). Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

³⁷² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

Table 5: **Work plan section 2; rebuilding plans:** In section 2 of its annual work plan, Fisheries and Oceans Canada (DFO) updates the progress on the development of rebuilding plans for 19 fish stocks and, starting in the 2019/20 fiscal year plan, identifies other stocks for inclusion in rebuilding plans in an additional sub-section (DFO 2017, DFO 2019a, DFO 2019b, DFO 2020a). The table below summarizes all fiscal year section 2 deliverables³⁷³ across all years by stock or stock group, with most recent health status³⁷⁴ and status towards completion as assessed by Oceana Canada. Stocks with completed rebuilding plans that are available online are noted as completed, stocks that have had deadlines shifted or delays in progress indicated by DFO are noted as delayed, and stocks for which the deadline has not yet passed are noted as ongoing. (Please note that the table does not include an assessment of plan quality.) Evaluation of the status of deliverable completion are only provided for stocks noted to be completed by the end of fiscal 2019/20 in the work plans. Stocks appearing first, before the bold line separating rows (rows 1–7), were previously assessed as completed or suspended in the 2018 or 2019 evaluation. Stocks after the bold line but before the dashed bold line (rows 8–9) were evaluated this year and included in the evaluation summary table above (Table 1). Stocks appearing after the bold dashed line (rows 10–25) have original deadlines dates that have not yet passed or appear only in the 2020/21 work plan and were not evaluated for status completion.

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
1	Pacific	Yelloweye rockfish, inside/outside; Critical, Healthy	The rebuilding plan for the outside stock will be revised to include measures for yelloweye rockfish: inside.	Completed in 2017/18.	Completed. Note: Outside yelloweye rebuilding plan to be updated in 2019-20. Inside yelloweye rebuilding plan may be updated in 2019/20 dependent on funding.	Completed.	By end of 2017/18.	Previously completed (2018)
<p>Details: In 2017/18 the yelloweye rockfish – inside population was added to the Pacific Region multispecies groundfish rebuilding plan, which already included the outside population and bocaccio. The first version of this rebuilding plan can be found as an appendix (9) of the 2018 Pacific Groundfish IFMP, which is not posted on the DFO website in its entirety but can be found via a search of the federal science library. The plan (available on page 252 of the PDF version of the IFMP) documents existing measures taken to minimize fishing mortality since 2012 and timelines, target and probabilities that appear to have been estimated at the last available stock assessment, which used data up until 2009.^{375,376} In early 2019, the complete IFMP for 2019/20 was made available via a search of the federal science library, and it includes a nearly identical version of the rebuilding plan (on page 259 of the PDF version of the IFMP).³⁷⁷ In the work plan results for 2018/19, the department also indicates this deliverable was completed; a tangible deliverable is complete and available as a result.³⁷⁸ A CSAS process was held in October 2019 to evaluate potential rebuilding strategies for the outside population of yelloweye rockfish (OYE). The resultant Science Advisory Report provides advice on rebuilding the stock formulated using closed-loop simulation modelling similar to a Management Strategy Evaluation (MSE) that tested the performance of a set of candidate management procedures (MPs) relative to stated rebuilding objectives.³⁷⁹ Specifically, three assessment methods were used in combination with different HCRs or implementation error scenarios to create a set of candidate MPs that were simulation-tested for each of the four operating model scenarios for north and south areas independently. All operating model scenarios implied that coast-wide, the stock is currently above the LRP even though the stock biomass had declined rapidly over the past two generations by 49–71% in the north and by 57–79% in the south. The report concluded that several potential MPs that were identified could increase or stabilize OYE biomass in both north and south areas. However, it is not possible at this time to recommend a specific MP for each area without further guidance on fishery objectives and timelines from managers, First Nations and fishery stakeholders, which should be sought. However, the report indicated an interim MP could be selected and implemented from the MPs evaluated in the short term while that work is done. The rebuilding plan was updated in 2020 (see page 244 of the PDF version of the IFMP), indicating an increase in the mortality</p>								

³⁷³ As stated in DFO work plans.

³⁷⁴ Health status was assigned primarily using Oceana Canada's Fishery Audit dataset (Oceana Canada 2020), with † denoting assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results (DFO 2019k) and †† denoting uncertain status assigned when stocks were not included in either dataset. As some records represent multiple stocks that appear as more than one record in the datasets used to assign status, all unique statuses for stocks within stock groups are included when applicable.

³⁷⁵ DFO (2011). Stock Assessment for the Inside Population of Yelloweye Rockfish (*Sebastes ruberrimus*) in British Columbia, Canada for 2010. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2011/084. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2011/2011_084-eng.html.

³⁷⁶ DFO (2018). Pacific Region Integrated Fisheries Management Plan, Groundfish, Effective February 21, 2018, Version 1.01. <http://waves-vagues.dfo-mpo.gc.ca/Library/40657814.pdf>

³⁷⁷ DFO (2019). Pacific Region Integrated Fisheries Management Plan, Groundfish, Effective February 21, 2019, Version 1.1. <http://waves-vagues.dfo-mpo.gc.ca/Library/40765167.pdf>

³⁷⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁷⁹ DFO (2020). Evaluation of Potential Rebuilding Strategies for Outside Yelloweye Rockfish in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/024. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_024-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			cap for the stock based on updated science information, from 100 to 194 t in 2020/21. ³⁸⁰ The rebuilding plan indicates further discussions with stakeholders and Indigenous groups are required to determine a target biomass given that the current conservation objectives of growing the stock above the LRP have already been satisfied. DFO indicates that, as noted during consultation on the 2020/21 IFMP, science advice was unpublished at the time the IFMP was drafted, and management changes would be considered once science advice is publicly available. ³⁸¹ In balancing timely and responsible management that reflects the best available science, interim mortality caps are outlined in the IFMP/rebuilding plan to satisfy current rebuilding plan conservation objectives. Work will occur throughout 2020 and 2021 to refine rebuilding objectives and management measures that will continue to satisfy mortality caps and eventually transition from management under a rebuilding plan to management under the standard IFMP process (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). Presumably, this also means continuation of the closed-loop simulation modelling once objectives are defined and selection of a MP and associated HCR after considering the results. The rebuilding plan also notes that a similar MSE-like process will be conducted for the inside population of yelloweye rockfish in 2020. A CSAS process evaluating MPs for the inside population rebuilding plan took place in June 2020. ³⁸² The reports from this process are not yet available.					
2	Maritimes	Atlantic cod – 4X5Y; Critical	Develop a rebuilding plan. The plan will document measures taken to minimize fishing mortality including the harvest strategy and multiple year quotas.	Completed in 2017-18.	Completed.	Completed.	By end of 2017/18.	Previously completed (2019)
			Details: In 2017/18 a rebuilding plan was developed and approved for Atlantic cod in 4X5Y, but it was not available online by the end of the fiscal year (P. Doherty, personal communication, June 12, 2018). The rebuilding plan for Atlantic cod - NAFO Division 4X5Y is now available on the DFO website, with a last-modified date on the webpage of January 9, 2019 and containing information up to and including 2017. ³⁸³ In the work plan results for 2018/19, the department also indicates this deliverable was completed; a tangible deliverable is complete and available as a result. ³⁸⁴ The rebuilding plan documents existing measures taken to minimize fishing mortality and outlines a generic harvest strategy but does not include multiple-year quotas beyond those previously put in place for 2017/18 and 2018/19. ³⁸⁵ This rebuilding plan was under review during this evaluation last year (2019) and revisions were anticipated following the stock assessment completed in fall 2018, ³⁸⁶ as indicated would occur in the plan itself. However, these have not yet been completed, and key aspects of the plan have now changed or are now undefined. For example, the LRP and USR have been revised and the primary short-term objective of the rebuilding plan “to ensure that total fishing mortality from the groundfish fishery does not exceed the F_{lim} for the Critical zone” is no longer measurable, given scientists indicated at the assessment that they could not provide a fishing mortality reference level because the stock is currently in the critical zone and expected to decline even in the absence of fishing under current productivity conditions. This rebuilding plan still requires updating.					
3	National Capital Region	Northern shrimp – SFA 6; Critical	Rebuilding plan currently in draft form.	Completed in 2017/18.	Completed in 2018/19.	Completed in 2018-19.	2017/18 fiscal year.	Previously completed (2019)
			Details: Although this plan is noted as completed in the 2018/19 deliverables, departmental officials indicated it was not completed in the 2017/18 fiscal year (N. Schjott, personal communication, June 7, 2018). In 2017/18 DFO formed a working group to develop a plan, a subset of the Northern Shrimp Advisory Committee, with representatives from all allocation holders from SFA 6 involved. A science process was held in January 2017 to assess the reference points, where it was determined that there was insufficient evidence to recommend a change to the current LRP until a new assessment model can be developed. ³⁸⁷ A draft plan was completed in fiscal 2017/18 and was awaiting approvals and anticipated to be posted online at the same time as the updated IFMP, sometime in summer or fall of 2018 (L. Edgar, personal communication, June 18, 2018). The rebuilding plan for northern shrimp SFA 6 is available on the DFO website as Annex J of the IFMP for					

³⁸⁰ DFO (2020). Appendix 9: Rebuilding Plans for Groundfish Species, *in* Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

³⁸¹ Now available as of the drafting of this report, see first footnote in this details section for its title and URL to access it.

³⁸² DFO (2020). Terms of Reference. Evaluation of Management Procedures for the Inside Population of Yelloweye Rockfish Rebuilding Plan. Regional Peer Review – Pacific Region. June 10–11, 2020, Nanaimo, BC. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/06_10-11-eng.html

³⁸³ DFO (2019). Rebuilding Plan for Atlantic cod – NAFO Division 4X5Y. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/cod-morue/cod-morue-2018-eng.html>

³⁸⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁸⁵ DFO (2019). Rebuilding Plan for Atlantic cod – NAFO Division 4X5Y. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/cod-morue/cod-morue-2018-eng.html>

³⁸⁶ DFO (2019). Stock Assessment of Atlantic Cod (*Gadus morhua*) in NAFO Divisions 4X5Y. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/015. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_015-eng.html

³⁸⁷ DFO (2017). Review of Reference Points Used in the Precautionary Approach for Northern Shrimp (*Pandalus borealis*) in Shrimp Fishing Area 6. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2017/009. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2017/2017_009-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status	
			northern shrimp and striped shrimp – shrimp fishing areas 0, 1, 4–7, the Eastern and Western Assessment Zones and North Atlantic Fisheries Organization (NAFO) Division 3M, effective 2018. ³⁸⁸ The IFMP has a last-modified date on the webpage of November 1, 2018 and contains information up to and including 2018. In the work plan results for 2018/19, the department also indicates this deliverable was completed; a tangible deliverable is complete and available as a result. ³⁸⁹ The rebuilding plan provides relevant context about the current state of the stock and impediments to rebuilding. It focuses on a new assessment model as the priority and summarizes current management measures in place for the stock. Although the plan mentions surpassing the LRP and eventually rebuilding to the healthy zone, it states that long-term objectives are “to be determined” and will only be implemented once the modelling exercise has been completed and that the draft objectives may be modified. Therefore, the rebuilding plan lacks an abundance target, associated timelines and probability estimates. The plan does clearly indicate that the current precautionary approach framework and associated harvest strategy applies and will be monitored, appropriately providing explicit guidance for harvest level decisions in the interim. But the current validity of the exploitation rates outlined for the health status zones for this stock was questioned by departmental scientists in the 2017 science process. DFO has allocated resources towards developing a model for this stock by 2020, which may inform a rebuilding plan update (L. Edgar, personal communication, June 18, 2018). A CSAS process was held in May 2019 with the key objective of reviewing the proposed population models and defining reference points consistent with the precautionary approach for northern shrimp in SFAs 4–7. ³⁹⁰ The terms of reference for the meeting indicate scientists developed spatially explicit population models for northern shrimp in SFAs 4–7. Last year in our evaluation of the LRP deliverable related to this stock group, departmental officials indicated that while a new model was accepted, more work is required. Consequently, reference points were not determined at the meeting, and their development will occur later (N. Schjott, personal communication, June 25, 2019). There are still no publications available from the May 2019 meeting to document this progress and decisions. In February 2020, a CSAS process was held to assess northern shrimp in SFAs 4–6. Reference points are not mentioned in the terms of reference for the meeting, ³⁹¹ and reports are not yet available from this process. DFO indicates modelling work is still ongoing and work continues towards the development of an updated LRP (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador and National Capital regions, personal communication, June 23, 2020). Model formulation is the short-term objective of the rebuilding plan, and the model will form the basis of determining long-term objectives and timelines for the rebuilding plan. The rebuilding plan indicates if a model is available, then the plan will be updating accordingly.						
4	Maritimes	Atlantic cod – 5Zjm; Critical	DFO will start work to develop a rebuilding plan. 5Z cod is an international stock, managed through international science (Transboundary Resource Assessment Committee, TRAC) and management (Transboundary Management Guidance Committee, TMGC). The rebuilding plan will identify the harvest strategies and approaches taken to rebuild the stock. It is expected that the plan will be completed by the end of 2018/19. This plan will not	Continue to work with U.S. and draft rebuilding plan by end of 2018-19.	Completed.	Completed.	By end of the 2018/19 fiscal year.	Previously completed (2019)	

³⁸⁸ DFO (2018). Integrated Fisheries Management Plan. Northern Shrimp and Striped Shrimp – Shrimp Fishing Areas 0, 1, 4–7, the Eastern and Western Assessment Zones and North Atlantic Fisheries Organization (NAFO) Division 3M Effective 2018. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html>

³⁸⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁹⁰ DFO (2019). Terms of Reference. Development of a New Precautionary Approach Framework for Northern Shrimp in the Newfoundland and Labrador Region. Regional Peer Review – Newfoundland and Labrador Region. May 15–17, 2019. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/05_15-17-eng.html

³⁹¹ DFO (2020). Terms of Reference. Assessment of Northern Shrimp in Shrimp Fishing Areas (SFAs) 4, 5 and 6. Regional Peer Review – Newfoundland and Labrador Region. February 18-20, 2020. St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_18-20-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			require joint approval from the U.S., but would be communicated as part of an open and transparent relationship.					
<p>Details: This stock is co-managed with the U.S. via the Transboundary Management Guidance Committee (TMGC), which provides non-binding guidance to both countries on management measures, such as quotas. The Transboundary Resources Assessment Committee (TRAC) is the scientific arm of the TMGC; the TRAC is the forum for joint science advice. As indicated in the 2017/18 work plan deliverable description, the rebuilding plan was not intended to be co-developed. Work on developing this plan begin in 2017 when DFO officials began to draft a rebuilding plan based on the DFO guidance document. This was informed by a literature search of information relating the stock and several science and management meetings held in 2018 (including the TRAC and TMGC meetings) (K. Spence, personal communication, June 14, 2018). In November 2018 departmental officials sought feedback on a draft rebuilding plan from members and observers of the primary domestic advisory body, the Gulf of Maine Advisory Committee (GOMAC) (including Oceana Canada), via email, providing 17 days for completion. At a meeting of GOMAC in April 2019, DFO indicated that the rebuilding plan was completed and would be posted online in the spring or summer (C. Karbowski, personal communication, April 16, 2019). The rebuilding plan for Atlantic cod – 5Zjm is now available on the DFO website,³⁹² with a last-modified date on the webpage of June 27, 2019³⁹³ and containing information up to and including 2018. In the work plan results for 2018/19, the department also indicates this deliverable was completed; a tangible deliverable is complete and available as a result.³⁹⁴ The rebuilding plan indicates that the objectives, strategies and reference points described apply explicitly to the management of the stock within Canada and may be used to guide Canadian members who will advance positions consistent with these objectives during negotiations at the TMGC. The rebuilding plan documents existing measures taken to minimize fishing mortality and outlines the existing TMGC harvest strategy using fishing mortality reference levels. However, estimating the past year's fishing mortality and projecting the following year's in relation to this strategy has not been possible since 2016, as indicated in the plan. The stock is likely to have a framework stock assessment in conjunction with the U.S.-domestic research track stock assessments for other U.S. cod stocks in the region (e.g., Gulf of Maine) in 2022 or 2023. In the interim, TRAC scientists are exploring a framework similar to a Management Strategy Evaluation (MSE), using the Data-Limited Methods Toolkit (DLMtools) with TMGC input to simulate the fishery and assess different harvest strategies.³⁹⁵ It was indicated at the April 2020 GOMAC meeting that draft fishery objectives and operating models would be reviewed at TRAC in July 2020 and that eventual results from this process may inform rebuilding plan revisions.</p>								
5	Maritimes	Yellowtail flounder – 5Z; Uncertain	DFO will start work to develop a rebuilding plan. 5Z yellowtail is an international stock, managed through international science (Transboundary Resource Assessment Committee, TRAC) and management (Transboundary Management Guidance Committee, TMGC). The rebuilding plan will identify the harvest strategies and approaches taken to rebuild stock. It is expected	Current rebuilding measures are included in the overarching Groundfish IFMP, developed in 2017/18. Refinement analysis ongoing.	Completed.	Completed.	By end of the 2018/19 fiscal year.	Previously completed (2019)

³⁹² DFO (2019). Rebuilding Plan for Atlantic cod – NAFO Division 5Z. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/cod-morue/cod-morue-2019-eng.html>

³⁹³ It should be noted that this rebuilding plan was not actually available to the public on the website as of July 17, 2019. The June 27, 2019 “date last modified” on the website indicates that the date last modified on DFO websites may not reflect when the webpages are made public but instead may reflect when the content was last edited by an IT specialist (i.e., webmaster). However, given there is often no other means to assess the date when management plans are published, Oceana Canada’s analysis uses the date last modified to assess the timeliness of most management plans.

³⁹⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁹⁵ Transboundary Resource Steering Committee (2019). Canada/United States (U.S.) Transboundary Resources Steering Committee, September 11–12, 2019, Meeting Minutes. http://www.bio.gc.ca/info/intercol/sc-cd/documents/sc_minutes_sept2019_eng.pdf

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status	
			that the plan will be completed by the end of 2018/19. This plan will not require joint approval from the U.S., but would be communicated as part of an open and transparent relationship.						
			<p>Details: This stock is co-managed with the U.S. via the Transboundary Management Guidance Committee (TMGC) that provides non-binding guidance to both countries on management measures, such as quotas. The Transboundary Resources Assessment Committee (TRAC) is the scientific arm of the TMGC; the TRAC is the forum for joint science advice. As indicated in the 2017/18 work plan deliverable description, the rebuilding plan was not intended to be co-developed. DFO officials began to draft a rebuilding plan based on the DFO guidance document. This was informed by a literature search of information relating the stock and several science and management meetings held in 2018 (including the TRAC and TMGC meetings) (K. Spence, personal communication, June 14, 2018). In November 2018 departmental officials sought feedback on a draft rebuilding plan from members and observers of the primary domestic advisory body, the Gulf of Maine Advisory Committee (GOMAC) (including Oceana Canada), via email, providing 17 days for completion. At a meeting of GOMAC in April 2019, DFO indicated that the rebuilding plan was completed and would be posted online in the spring or summer (C. Karbowski, personal communication, April 16, 2019). The rebuilding plan for yellowtail flounder in 5Z is now available on the DFO website,³⁹⁶ with a last-modified date on the webpage of June 27, 2019 and containing information up to and including 2018.³⁹⁷ In the work plan results for 2018/19, the department also indicates this deliverable was completed; a tangible deliverable is complete and available as a result.³⁹⁸ The rebuilding plan documents existing measures taken to minimize fishing mortality and documents a recently developed harvest strategy for the Canadian portion of the fishery using the upper bound of an exploitation rate recommended by scientists for the entire fishery (U.S. and Canada). This rebuilding plan includes an undefined target (i.e., LRP), which the plan indicates will be established in 2020/21. The stock was assessed using the established empirical approach again in 2019, but no reference points are noted as being developed.³⁹⁹ Rebuilding plans were on the agenda at the April 2020 GOMAC meeting. No updates were provided specific to the yellowtail flounder rebuilding plan, but any changes noted at the assessment by TRAC in July 2020 may inform rebuilding plan revisions.</p>						
6	National Capital Region	Acadian redfish – Units 1 and 2, ⁴⁰⁰ Cautious	By the end of March 2018: management strategy evaluation (MSE) will be available. The MSE is a simulation computer model that is used to make predictions about the stock status and to test different harvest strategies. By the end of April 2018: MSE and rebuilding plan will	New deadline: By end of 2018/19. Management strategy evaluation (MSE) and rebuilding plan will be completed in 2018-19.	No longer required.	No longer required.	June in the 2018/19 fiscal year.* *Previously committed to be completed by end of fiscal 2017/18. ⁴⁰¹ New deadline in 2018/19 work plan: By end of 2018/19.	Previously suspended (2018)	

³⁹⁶ DFO (2019). Rebuilding Plan for Yellowtail Flounder – NAFO Division 5Z. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/flounder-limande/2018/index-eng.html>

³⁹⁷ It should be noted that this rebuilding plan was not actually available to the public on the website as of July 17, 2019. The June 27, 2019 “date last modified” on the website indicates that the date last modified on DFO websites may not reflect when the webpages are made public but instead may reflect when the content was last edited by an IT specialist (i.e., webmaster). However, given there is often no other means to assess the date when management plans are published, Oceana Canada’s analysis uses the date last modified to assess the timeliness of most management plans.

³⁹⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

³⁹⁹ Transboundary Resource Steering Committee (2019). Canada/United States (U.S.) Transboundary Resources Steering Committee, September 11–12, 2019, Meeting Minutes. http://www.bio.gc.ca/info/intercol/sc-cd/documents/sc_minutes_sept2019_eng.pdf

⁴⁰⁰ Included in 2017/18 and 2018/19 work plan 2 as both redfish species combined, with unit 1 separate from unit 2, whereas here Oceana Canada lists each redfish species separately within unit 1 and 2 combined, as per the DFO Science definition of the stock.

⁴⁰¹ Canada. (2017). Parliament. House of Commons. Standing Committee on Fisheries and Oceans. Evidence. (Issue No. 55, April 6, 2017.) 42nd Parliament, 1st Session. (Online).

<http://www.parl.gc.ca/content/hoc/Committee/421/FOPO/Evidence/EV8870047/FOPOEV55-E.PDF>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			be tabled at special meeting of the Gulf Groundfish Advisory Committee (GGAC). By the end of May 2018: MSE and rebuilding plan will be submitted for approval.					
<p>Details: The Management Strategy Evaluation (MSE) process passed CSAS scientific peer review in late April 2018,⁴⁰² but no management procedure (i.e., harvest control rule) was chosen and implemented by management. At the newly formed Redfish Advisory Group meeting in early May 2018, DFO announced it will no longer be pursuing a rebuilding plan for redfish in units 1 and 2. Based on reference points and stock status developed in the MSE, both species are now out of the critical zone in units 1 and 2 combined, so a plan is not required by policy. In the work plan results for 2018/19 the department indicates this deliverable was "N/A": the commitment or action as defined in the description of deliverables (2018/19) was not pursued for reasons including no longer being required.⁴⁰³ However, this improvement in stock status is largely due to a few recent large cohorts (2011–13), and Acadian redfish remain in the cautious zone.⁴⁰⁴ DFO and industry recognize they have work to do to figure out how to develop a modern and sustainable redfish fishery, and in 2018 DFO initiated an experimental fishery for research addressing the ways to determine the species split in the catches, to demonstrate ability to target the more abundant deepwater redfish and avoid the less abundant Acadian redfish, and to identify ways to mitigate bycatch impacts on small redfish, depleted species and sensitive habitats.^{405,406} How this will be accomplished is not clear, as currently there is no single fisheries management plan (rebuilding plan or IFMP) that covers both species in the entire stock area. A single management plan (rebuilding plan or IFMP) should be developed for this rebuilding fishery and include measures addressing the above issues and an HCR to guide catch level decisions.</p>								
7	National Capital Region	Deepwater redfish – Units 1 and 2, ⁴⁰⁷ Healthy	By the end of March 2018: management strategy evaluation (MSE) will be available. The MSE is a simulation computer model that is used to make predictions about the stock status and to test different harvest strategies. By the end of April 2018: MSE and rebuilding plan will be tabled at special meeting of the Gulf Groundfish Advisory Committee (GGAC). By the end of May 2018: MSE and rebuilding plan will be submitted for approval.	New deadline: By end of 2018/19. Management strategy evaluation (MSE) and rebuilding plan will be completed in 2018/19.	No longer required.	No longer required.	June in the 2018/19 fiscal year.* *Previously committed to be completed by end of fiscal 2017/18. ⁴⁰⁸ <u>New deadline in 2018/19 work plan:</u> By end of 2018/19.	Previously suspended (2018)

⁴⁰² DFO (2018). Units 1+2 Redfish Management Strategy Evaluation. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/033. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_033-eng.html

⁴⁰³ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁰⁴ DFO (2020). Redfish (*Sebastes mentella* and *S. fasciatus*) Stocks Assessment in Units 1 and 2 in 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/019. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_019-eng.html

⁴⁰⁵ DFO (2018). Redfish Unit 1 and 2 (2018 and 2019). <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2018-gp/atl-23-eng.html>

⁴⁰⁶ DFO (2019). Experimental Fishing Plan Unit 1 redfish (2019 season). <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/management-plan-gestion/redfish-sebaste-eng.html>

⁴⁰⁷ Included in 2017/18 and 2018/19 work plan 2 as both redfish species combined, with unit 1 separate from unit 2, whereas here Oceana Canada lists each redfish species separately within unit 1 and 2 combined, as per the DFO Science definition of the stock.

⁴⁰⁸ Canada. (2017). Parliament. House of Commons. Standing Committee on Fisheries and Oceans. Evidence. (Issue No. 55, April 6, 2017.) 42nd Parliament, 1st Session. (Online).

<http://www.parl.gc.ca/content/hoc/Committee/421/FOPO/Evidence/EV8870047/FOPOEV55-E.PDF>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			<p>Details: The Management Strategy Evaluation (MSE) process passed CSAS scientific peer review in late April 2018,⁴⁰⁹ but no management procedure (i.e., harvest control rule) was chosen and implemented by management. At the newly formed Redfish Advisory Group meeting in early May 2018, DFO announced it will no longer be pursuing a rebuilding plan for redfish in units 1 and 2. Based on reference points and stock status developed in the MSE, both species are now out of the critical zone in units 1 and 2 combined, so a plan is not required by policy. In the work plan results for 2018/19, the department indicates this deliverable was “N/A”: the commitment or action as defined in the description of deliverables (2018/19) was not pursued for reasons including no longer being required.⁴¹⁰ However, this improvement in stock status is largely due to a few recent large cohorts (2011–13), and Acadian redfish remain in the cautious zone.⁴¹¹ DFO and industry recognize they have work to do to figure out how to develop a modern and sustainable redfish fishery, and in 2018 DFO initiated an experimental fishery for research addressing the ways to determine the species split in the catches, to demonstrate ability to target the more abundant deepwater redfish and avoid the less abundant Acadian redfish, and to identify ways to mitigate bycatch impacts on small redfish, depleted species and habitat.^{412,413} How this will be accomplished is not clear, as currently there is no single fisheries management plan (rebuilding plan or IFMP) that covers both species in the entire stock area. A single management plan (rebuilding plan or IFMP) should be developed for this rebuilding fishery and include measure addressing the above issues and an HCR to guide catch level decisions.</p>					
8	Newfoundland and Labrador	Atlantic cod – 2J3KL; Critical	DFO is currently engaged in a process involving industry, the Government of Newfoundland and Labrador and NGOs to develop a rebuilding plan. It is anticipated that the rebuilding plan will be in place in 2018/19 to inform the 2018 fishery management decisions.	Continue to evaluate model and HCR to inform 2018 management decision. Rebuilding plan to be completed by end of 2018/19.	Delayed. Divergent stakeholder views limited progress in defining a harvest decision rule; draft plan presented by DFO to stakeholders (spring 2018); adoption / further development of the plan was put on hold pending LRP review (January 2019); next steps to be determined.	Expected date of completion revised from 2018-19 to 2020-21. To date, divergent stakeholder views have limited progress in defining a Harvest Control Rule. The draft Rebuilding Plan presented to stakeholders in 2018 was not adopted. The LRP was reviewed and deemed to be valid in 2019. Objective is to complete a Rebuilding plan by 2020-21.	2018/19 fiscal year. <u>New deadline in 2020/21 work plan:</u> By end of 2020-21	Delayed
			<p>Details: A working group made up of a subset of the 2J3KLMNO Groundfish Advisory Committee has been established and tasked with the development of a rebuilding plan and associated HCR. As noted in the 2018/19 work plan, work to develop and implement an HCR was not completed in fiscal 2017/18 and continued into 2018/19. DFO presented a draft HCR at the groundfish advisory committee meeting in April 2018, but it was not used to inform the 2018 management decisions. In January 2019, a CSAS process was held to re-evaluate the LRP, where it was concluded the previous approach to adopting the LRP (as well as the LRP itself) remains valid.⁴¹⁴ The stock was assessed in March 2019, but although harvest advice was sought, HCR development or evaluation was not in the terms of reference for the meeting or discussed in the resultant report.^{415,416} At the April 2019 2J3KLMNO Groundfish Advisory Committee meeting, the department indicated the next steps towards the rebuilding plan and associated HCR were to be determined. In the work plan results for 2018/19, the department indicated both these</p>					

⁴⁰⁹ DFO (2018). Units 1+2 Redfish Management Strategy Evaluation. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/033. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_033-eng.html

⁴¹⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴¹¹ DFO (2020). Redfish (*Sebastes mentella* and *S. fasciatus*) Stocks Assessment in Units 1 and 2 in 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/019. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_019-eng.html

⁴¹² DFO (2018). Redfish Unit 1 and 2 (2018 and 2019). <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2018-gp/atl-23-eng.html>

⁴¹³ DFO (2019). Experimental Fishing Plan Unit 1 Redfish (2019 Season). <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/management-plan-gestion/redfish-sebaste-eng.html>

⁴¹⁴ DFO (2019). Evaluation of the Limit Reference Point for Northern Cod (NAFO Divisions 2J3KL). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/058. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_058-eng.html

⁴¹⁵ DFO (2019). Terms of Reference. Stock Assessment of Northern Cod (Divs. 2J3KL). Regional Peer Review Process – Newfoundland and Labrador Region. March 26–29, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/03_26-29-eng.html

⁴¹⁶ DFO (2019). Stock Assessment of Northern Cod (NAFO Divisions 2J3KL) in 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/050. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_050-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status	
			<p>deliverables were again delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables (2018/19).⁴¹⁷ The stock was scheduled for a complete assessment in March 2020, but due to the COVID-19 pandemic, this meeting was cancelled and instead a Science Response Process was held on April 1-2, 2020 to provide 2020 harvest advice.⁴¹⁸ Reports from this process are not yet available. Neither a rebuilding plan nor HCR development was on the agenda for the April 2020 2J3KLMNO Groundfish Advisory Committee meeting, although when asked by an Oceana Canada representative, departmental officials did indicate the rebuilding plan remained a priority. It is unclear what progress was made towards HCR development in fiscal 2019/20, and it is suspected no working group meetings have been held since early 2018. The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁴¹⁹ The 2020/21 fiscal year work plan indicates rebuilding plan completion will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. The work plan indicated a shift in the expected date of completion from 2018/19 to 2020/21. The deliverable description for 2020/21 indicates that, to date, divergent stakeholder views have limited progress in defining an HCR and that the draft rebuilding plan presented to stakeholders in 2018 was not adopted. It further reiterates that the LRP was reviewed and deemed to be valid in 2019 and that the objective is to complete a rebuilding plan by the end of 2020/21. DFO confirms that a completed rebuilding plan for the northern cod stock is a priority for 2020/21 (Fisheries and Aquaculture Management, Newfoundland and Labrador Region, personal communication, June 23, 2020).</p>						
9	National Capital Region	Mackerel – (Atlantic) NAFO 3 and 4; Critical	Departmental working group meeting to consider draft objectives and components of a rebuilding plan.	Departmental working group formed and management strategy evaluation (MSE) process initiated to draft objectives and develop a harvest control rule (HCR).	In progress. Completion expected by end of fiscal 2019/20.	Completed in 2019-20.	2019/20 fiscal year.	Delayed	
<p>Details: A rebuilding working group made up of scientists, First Nations representatives, fishers, fisheries managers, environmental groups and provincial governments was formed in December 2017 to develop a rebuilding plan for this stock, and it was anticipated that the plan would be available in March 2020.⁴²⁰ In March 2019, the stock was assessed and the results from the model were to serve as basis for a Management Strategy Evaluation (MSE) framework that has been developed.⁴²¹ Draft MSE results were peer reviewed during the March 2019 assessment CSAS process.^{422,423} The review resulted in suggestions to add trade-offs to management objectives, to improve operating models and to develop quantitative metrics for strategy evaluation. The report indicated that these steps would provide an improved basis to select management procedures (MPs) to attain specific objectives (including rebuilding) for the stock under key uncertainties. In the work plan results for 2018/19, the department indicated the deliverable was met; commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable.⁴²⁴ The working group was to continue to meet throughout the rest of 2019 in order to provide guidance to the Minister of Fisheries and Oceans on the development of a rebuilding plan, with a document expected in 2020.⁴²⁵ There is currently no CSAS process on the schedule for 2020, but the stock will be assessed again in 2021.⁴²⁶ The results of the 2019/20 work plan evaluation indicate this deliverable is completed; a tangible deliverable is complete and available as a result,⁴²⁷ and the 2020/21 fiscal year work plan indicates this rebuilding plan was completed</p>									

⁴¹⁷ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴¹⁸ DFO (2020). Terms of Reference. Stock Assessment of Northern Cod (Divs. 2J3KL). Regional Peer Review Process – Newfoundland and Labrador Region. April 1-2, 2020, Virtual. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/04_01-02b-eng.html

⁴¹⁹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴²⁰ Smith, A. (2019). Strategies for Rebuilding the Atlantic Mackerel Stock. InfoOceans. <https://inter-l01-uat.dfo-mpo.gc.ca/infoceans/en/infocean/strategies-rebuilding-atlantic-mackerel-stock>

⁴²¹ DFO (2020). Terms of Reference. Assessment of Atlantic Mackerel in Subareas 3-4. Regional Peer Review – Quebec Region. March 5-7, 2019. Mont-Joli, QC. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/03_05-07b-eng.html

⁴²² DFO (2019). Assessment of the Atlantic Mackerel Stock for the Northwest Atlantic (Subareas 3 and 4) in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/035. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_035-eng.html

⁴²³ DFO (2019). Proceedings of the Regional Peer Review Meeting of the Assessment of Atlantic Mackerel in Subareas 3-4; March 5-7, 2019. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2019/026. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2019/2019_026-eng.html

⁴²⁴ DFO (2019). Work Plans For fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴²⁵ DFO (2019). Fisheries Management Decisions. Atlantic Mackerel – NAFO Subareas 3 and 4. <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2019-gp/atl-16-eng.html>

⁴²⁶ DFO (2019). Proceedings of the Regional Peer Review Meeting of the Assessment of Atlantic Mackerel in Subareas 3-4; March 5-7, 2019. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2019/026. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/Pro-Cr/2019/2019_026-eng.html

⁴²⁷ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			in the 2019/20 fiscal year. The 2020 quota decision was communicated in late May 2020, and it indicated a rebuilding plan is expected in 2020, ⁴²⁸ however it was still not posted on the website by Oceana's Canada's annual information inclusion deadline (of July 1 st) so remains evaluated as "delayed" here. DFO confirms that the rebuilding plan is complete and will be posted on the website as soon as translation is completed (Fisheries and Aquaculture Management, National Capital Region, personal communication, June 23, 2020). Final revisions were made to the rebuilding plan after the working group last met in March 2020. Progress toward rebuilding the stock will be incremental, and the plan will be reviewed during each stock assessment year (2021, 2023, 2025) and revised as needed (Fisheries and Aquaculture Management, National Capital Region, personal communication, June 23, 2020).					
10	Pacific	Pacific herring – Haida Gwaii (Pacific QCI); Critical	A meeting with stakeholders will be held to begin discussion on the rebuilding plan. The summary report from the workshop will aid in the development of a draft outline of the rebuilding plan.	New deadline: 2020/21. ⁴²⁹ Expected date of completion revised from 2018/19 to 2020-21. Draft rebuilding plan developed preliminary simulations to evaluate draft objectives to begin. Hold meetings with Haida to discuss results of simulations and refine objectives.	Complete operating model and begin simulation testing of management procedures against rebuilding objectives.	Rebuilding plan completion by end of December 2020 as committed to under the Gwaii Haanas Land- Sea- People Management Plan.	By end of the 2018/19 fiscal year. <u>New deadline in 2018/19 work plan: 2020/21.</u> ⁴³⁰	Not evaluated – deadline not yet passed
<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19 and 2019/20, the department indicates the deliverable was met; commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable.^{431,432} The most recent IFMP (2019/20) indicates that DFO has committed to developing and implementing a rebuilding plan for Haida Gwaii Pacific herring by December 2020 and that work is underway through a technical working group comprised of members of the Council of Haida Nation, DFO and Parks Canada.⁴³³ It indicates that engagement with rights-holders and stakeholders will be ongoing in 2020/21 and provides a synopsis of progress to date with the Management Strategy Evaluation (MSE) and alignment of Pacific herring management with the DFO precautionary approach. In August 2019, a CSAS Science Response Process (SRP) was held to evaluate management procedures (MPs) for Pacific herring (<i>Clupea pallasii</i>) in the Haida Gwaii management area of British Columbia, developed under MSE. resultant Science Response report summarizes progress to date and next steps.⁴³⁴ It indicates that LRPs were developed and accepted by scientists at a meeting in 2017 and that closed-loop feedback simulation testing of candidate MPs, including HCRs, was recommended as a next step to evaluate the consequences of LRP choice for each area. However, the selection of preferred MPs requires a full set of measurable objectives for conservation and the fishery (e.g., related to catch, catch variability and socio-cultural goals) that have yet to be developed. Therefore, at the 2019 CSAS SRP only core fisheries management objectives and potential stock-specific objectives previously proposed by DFO at the Integrated Herring Harvest Planning Committee in May 2017 were included in this first cycle of MSE. (SRPs are smaller, usually DFO-only, peer-review processes.) The report noted that DFO will continue to collaborate with coastal First Nations to develop area-specific objectives specific to Food, Social and Ceremonial fisheries and spawn-on-kelp fisheries. These and additional objectives may be captured within the rebuilding plan for Haida Gwaii herring. It is suspected that discussions pertaining to additional objectives were ongoing in 2019/20 and are planned to continue in 2020/21. In September 2019, another CSAS SRP was held to update the status of the stocks and provide harvest advice for 2019/20. The report from this process indicated harvest advice was informed by multiple methods, including newly tested MPs that</p>								

⁴²⁸ DFO (2020). Atlantic Mackerel – NAFO Subareas 3 and 4. <http://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2020-gp/atl-17-eng.html>

⁴²⁹ The 2018/19 work plan indicates expected date of completion as end of fiscal 2018/19, but departmental officials indicate the description in the deliverables is accurate and 2020/21 is the expected date of completion (N. Schjott, personal communication, June 7, 2018). The 2019/20 work plan reflects this new anticipated completion date.

⁴³⁰ The 2018/19 work plan indicates expected date of completion as end of fiscal 2018/19, but departmental officials indicate the description in the deliverables is accurate and 2020/21 is the expected date of completion (N. Schjott, personal communication, June 7, 2018). The 2019/20 work plan reflects this new anticipated completion date.

⁴³¹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴³² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴³³ DFO (2019). Pacific Region Integrated Fisheries Management Plan. November 26, 2019–November 6, 2020. Pacific Herring. <https://waves-vagues.dfo-mpo.gc.ca/Library/40851448.pdf>

⁴³⁴ DFO (2020). Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in Haida Gwaii, Prince Rupert District, and the Central Coast Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/003. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_003-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			passed the core conservation objective. ⁴³⁵ Unfortunately, results of the simulation-evaluations found that none of the proposed MPs, including the historical and no fishing MPs, performed satisfactorily against the conservation objective of maintaining the Haida Gwaii herring spawning biomass above the LRP with high probability (at least 75%), and DFO supported the closure of the commercial herring fishery for the Haida Gwaii major stock region until April 2021, and the harvest recommendation for the Haida Gwaii stock in 2020 was 0 t. DFO confirms that regular meetings are occurring with the Haida Gwaii Rebuilding Plan Working Group and that writing of the report and simulation work, including an update of the operating model and further analysis of objectives and management procedures, is underway. The rebuilding plan is still on track to be completed by the end of fiscal 2020/2021 (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).					
11	Newfoundland and Labrador	Atlantic cod – 3Ps; Critical	Begin process to conduct a science framework assessment for the stock.	Benchmark assessment process in advance of rebuilding plan development. HCR to inform 2020 management decision. Rebuilding plan to be completed by 2020/21.	Framework assessment to be completed in fall 2019. Outcome will inform development of rebuilding plan. Remains on track for 2020/21 deliverable.	Science framework assessment was completed and new model selected. Stock assessment that occurred in November 2019 indicate stock is in critical zone.	2020/21 fiscal year.	Not evaluated – deadline not yet passed
			Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19 and 2019/20, the department indicated the deliverable was met; commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable. ^{436,437} A framework assessment was completed in October 2019 in a CSAS process, ⁴³⁸ but reports are not yet available from this process. The stock was assessed using the new model framework at a CSAS process in November 2019. The resultant Science Advisory Report indicates the stock had declined to 24% of the LRP. ⁴³⁹ The report does not include an evaluation of any HCRs to inform management decisions. At the 2020 3Ps groundfish advisory committee in January 2020, the department indicated plans to initiate a process to develop a rebuilding plan for this stock in the coming year, with involvement from the advisory committee or subset of the committee to develop it. DFO confirms that the development of a rebuilding plan for 3Ps cod is a priority, and it will initiate the process to develop a rebuilding plan in 2020/21 (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020).					
12	Quebec	Icelandic scallop – SFA 16ef, 18a; Uncertain	Submit request to DFO Science for advice on the state of the stock to support development of the plan.	A scientific survey will be carried out in the management units. A choice of indicators to determine reference points will be made based on the analysis of available biological data and the precautionary approach developed for scallop of an adjacent management unit.	In progress. Awaiting Science report.	Delayed. Could be completed by the end of 2021-22. Awaiting development of a model and indicators by Science.	2020/21 fiscal year.	Not evaluated – deadline not yet passed
			Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁴⁴⁰ The 2019/20 work plan results indicate this deliverable was met; the commitment or action as					

⁴³⁵ DFO (2020). Stock Status Update with Application of Management Procedures for Pacific Herring (*Clupea pallasii*) in British Columbia: Status in 2019 and Forecast for 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/004. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_004-eng.html

⁴³⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴³⁷ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴³⁸ DFO (2019). Terms of Reference. 3Ps Cod Assessment Framework. Regional Peer Review – Newfoundland and Labrador Region. October 8 – 10, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_08-10-eng.html

⁴³⁹ DFO (2020). Stock Assessment of NAFO Subdivision 3Ps Cod. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/2018. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_018-eng.html

⁴⁴⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			defined in the description of deliverables (2019/20) is complete without a tangible deliverable. ⁴⁴¹ But the 2020/21 work plan indicates DFO considers this deliverable to be delayed, given it was noted as being carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. It is unclear why this discrepancy exists. The stock was one of several assessed at a CSAS process in February 2020, but the terms of reference do not mention rebuilding plan support. ⁴⁴² Resultant reports are not yet available from this process. The 2020/21 work plan deliverable description indicate that the rebuilding plan could be completed by the end of 2021/22 and that DFO is awaiting development of a model and indicators by Science. DFO confirms that drafting work has started and will continue in 2020/21 and that the development of a model and indicators by Science may allow further progress this year (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).					
13	Quebec	Beluga – Northern (Nunavik); Uncertain†	A meeting is planned with harvesters to discuss the development of a rebuilding plan.	Two meetings are planned with Aboriginal communities to discuss the development of the rebuilding plan.	In progress. A revision to target completion date may be required. This may be determined based on progress made in 2019/20.	Delayed. A new management plan should be developed and approved in 2020-21. The timeline for completion of the recovery plan will be reviewed in light of the progress made in 2020-21	2020/21 fiscal year.	Not evaluated – deadline not yet passed
			Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was met; the commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable. ⁴⁴³ The 2019/20 work plan results also indicate this deliverable was met, ⁴⁴⁴ but the 2020/21 work plan indicates DFO considers this deliverable to be delayed given it was noted as being carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. It is unclear why this discrepancy exists. The most recent (2018) results of the DFO Sustainability Survey for Fisheries does not indicate a rebuilding plan is under development. ⁴⁴⁵ This stock is co-managed with the Nunavik Marine Region Wildlife Board (NMRWB). A recent (2020) submission from DFO to NMRWB does not mention a rebuilding plan but does discuss issues with management plans and suggests several areas for improved communications and better collaboration. ⁴⁴⁶ DFO indicates the management plan and the beluga rebuilding plans are interrelated in a co-management context (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020). Fisheries Management and Science put forward the idea of developing a precautionary approach and a rebuilding plan as often as possible at quarterly meetings of the Nunavik Marine Region Wildlife Board. More discussions are needed (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).					
14	Pacific	Chinook salmon – WCVI; Uncertain††	Known rebuilding factors and threats will be summarized and later reviewed with stakeholders to begin discussion on development of a rebuilding plan.	Hold workshops to determine issues and potential actions for Clayoquot chinook. Address knowledge gaps in outmigration and hatchery return information (field studies, data collection and reporting).	Continue workshops and outmigration and hatchery return work to address knowledge gaps. Begin compiling draft local/area sub-plans and risk assessments into WCVI-wide plan.	Roundtable meetings in 2020-21 to finalize area-level management plans and completion of rebuilding plan by March 2021.	2020/21 fiscal year.	Not evaluated – deadline not yet passed

⁴⁴¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁴² DFO (2020). Terms of Reference. Stock Assessment of Scallop in Quebec Inshore Waters. Regional Peer Review – Quebec Region. February 26, 2020, Mont-Joli, QC. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_26-eng.html

⁴⁴³ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁴⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁴⁵ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁴⁴⁶ DFO (2020). Department of Fisheries and Oceans Canada Submission to the Nunavik Region Wildlife Board in response to the Notice of Written Hearing of January 21–23, 2020: Modification of the Total Allowable Take and Non Quota Limitations for Eastern Hudson Bay Beluga in the Nunavik Marine Region. <https://nmrwb.ca/wp-content/uploads/2020/01/Department-of-Fisheries-and-Oceans.pdf>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was met; the commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable.⁴⁴⁷ The results of the 2019/20 work plan evaluation indicate this deliverable is delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁴⁴⁸ DFO indicates that the rebuilding plan for WCVI chinook was committed to under the <i>2016 CESD Report 2, Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada</i> and that it will be a rebuilding plan under the Sustainable Fisheries Framework (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020). The rebuilding plan will apply to the WCVI chinook stock management unit made up of the three conservation units (Nootka & Kyuquot, NW Vancouver Island, SW Vancouver Island) on the WCVI and not the WCVI Aggregate Abundance-Based Management chinook fishery that is included in the Sustainability Survey for Fisheries (Fisheries and Aquaculture Management, and Science, Pacific Region, personal communication, June 23, 2020).⁴⁴⁹ The Wild Salmon Policy implementation plan indicates that DFO and a broad range of partners are conducting research and habitat assessments for WCVI Chinook and that risk assessment workshops with Indigenous groups and relevant stakeholders are being held, often through local roundtables, to determine risks and potential actions for rebuilding WCVI Chinook populations.⁴⁵⁰ A collaboratively developed rebuilding plan, which will be made publicly available through DFO's website, is anticipated to be completed by 2020/2021. The 2020 annual report on the Wild Salmon Policy implementation indicates rebuilding plan development as an activity item for 2020/21.⁴⁵¹</p>					
15	Gulf	Atlantic cod – southern Gulf of St. Lawrence, 4TVn; Critical	Develop a workplan that includes compilation of data on the stock and fisheries on the stock to support the development of a rebuilding plan.	New deadline: By end of 2020/21. 2018/19 Meetings with industry to discuss rebuilding objectives. Draft rebuilding plans will be prepared.	Consultant will be hired to draft rebuilding plan in 2019/20.	Draft rebuilding plan to be presented at the Gulf Groundfish Advisory Committee meeting in March 2021.	To be determined, pending completion of workplan in 2017/18 fiscal year. <u>New deadline in 2018/19 workplan: By end of 2020/21.</u>	Not evaluated – deadline not yet passed
			<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁴⁵² The results of the 2019/20 work plan evaluation also indicated this deliverable was delayed.⁴⁵³ At the Gulf Groundfish Advisory Committee interim year conference call in March 2020, the department had to end the meeting just before the agenda item pertaining to rebuilding plan updates due to technical difficulties. However, the chair did indicate a working group will be formed for advice and guidance on rebuilding options for stocks in the critical zone. The stock was assessed at a CSAS process in February 2019, and although the resultant report does not mention a rebuilding plan,⁴⁵⁴ it is suspected the report will inform rebuilding plan development. DFO indicates a consultant was hired during fiscal year 2018/19 to undertake a qualitative analysis to inform the development of rebuilding plans for groundfish in the Gulf region (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). A report was tabled in late March 2018, which emphasized identifying gaps in information as well as providing an overview of current scientific knowledge and basic needs to develop rebuilding plans compliant with the precautionary approach. The results of this analysis, in particular the recommendations and suggestions to address the gaps identified, have already proven to be instrumental in guiding rebuilding effort for the Gulf groundfish stocks. A draft rebuilding plan will be presented to the Gulf Groundfish Working Group this fall; the draft plan will then go for review and validation before the Gulf Groundfish Advisory Committee at their March 2021 meeting (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).</p>					

⁴⁴⁷ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁴⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁴⁹ WCVI Aggregate Abundance-Based Management Chinook is the only WCVI Chinook stock group included in the survey.

⁴⁵⁰ DFO (2018). Wild Salmon Policy 2018 to 2022 Implementation Plan. <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/ip-pmo/stocks-eng.html>

⁴⁵¹ DFO (2020). Wild Salmon Policy 2018 to 2022 Implementation Plan: Annual Report 2019 to 2020. <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2019-2020-eng.html>

⁴⁵² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁵³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁵⁴ DFO (2019). Assessment of Atlantic Cod (*Gadus morhua*) in the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn (Nov. – April)) to 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/021. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_021-eng.html

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16	Gulf	Atlantic herring – 4T spring spawner; Critical	Develop a workplan that includes compilation of data on the stock and fisheries on the stock to support the development of a rebuilding plan.	New deadline: By end of 2020/21. 2018/19: Meetings with industry to discuss rebuilding objectives. Draft rebuilding plans will be prepared.	Rebuilding plan will be completed in 2020/21.	Draft rebuilding plan will be presented to an industry working group in March 2020. Rebuilding plan to be completed in 20-21.	To be determined, pending completion of workplan in 2017/18 fiscal year. <u>New deadline in 2018/19 work plan:</u> By end of 2020/21.	Not evaluated – deadline not yet passed
<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was met; the commitment or action as defined in the description of deliverables (2018/19) was complete without a tangible deliverable.⁴⁵⁵ The results of the 2019/20 work plan evaluation also indicated this deliverable was met.⁴⁵⁶ A CSAS process was held in March 2018 to assess Atlantic herring (<i>Clupea harengus</i>) from the southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and provide advice for the 2018 and 2019 fisheries.^{457,458,459} No further CSAS processes occurred in 2018/19, but resource management meetings with working groups did occur as planned on December 13, 2018 and February 20, 2019 (N. Schjott, personal communication, August 1, 2019). In March 2020 there was a CSAS Science Response Process intended to review the status of the stock and harvest advice for 2020 and 2021.⁴⁶⁰ DFO indicates a draft rebuilding plan was developed by a consultant and will be presented at the fall meeting of the Gulf Small Pelagics Working Group (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). The draft plan will then go to the Gulf Small Pelagics Advisory Committee for review and endorsement in March 2021. DFO is still planning on completing the rebuilding plan by March 31, 2021 (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).</p>								
17	Gulf	American plaice – southern Gulf of St. Lawrence, 4T; Critical	Develop a workplan that includes compilation of data on the stock and fisheries on the stock to support the development of a rebuilding plan.	New deadline: By end of 2020/21. 2018/19: Meetings with industry to discuss rebuilding objectives. Draft rebuilding plans will be prepared.	Consultant will be hired to draft rebuilding plan in 2019/20.	Draft rebuilding plan to be presented at the Gulf Groundfish Advisory Committee meeting in March 2021.	To be determined, pending completion of workplan in 2017/18 fiscal year. <u>New deadline in 2018/19 work plan:</u> By end of 2020/21.	Not evaluated – deadline not yet passed
<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁴⁶¹ The results of the 2019/20 work plan evaluation indicated this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) was complete without a tangible deliverable.⁴⁶² At the Gulf Groundfish Advisory Committee interim year conference call in March 2020, the department had to end the meeting just before the agenda item pertaining to rebuilding plan updates due to technical difficulties. However, the chair did indicate a working group will be formed for advice and guidance on rebuilding options for stocks in the critical zone. DFO indicates a consultant was hired during fiscal year 2018/19 to undertake a qualitative</p>								

⁴⁵⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁵⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁵⁷ DFO (2018). Terms of Reference. Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2017 and Advice for the 2018 and 2019 Fisheries Regional Science Peer Review – Gulf Region. March 14–15, 2018, Moncton, New Brunswick. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2018/03_14-15b-eng.html

⁴⁵⁸ DFO (2018). Assessment of the Southern Gulf of St. Lawrence (NAFO Div. 4T) Spring and Fall Spawner Components of Atlantic Herring (*Clupea harengus*) with Advice for the 2018 and 2019 Fisheries. DFO Can. Sci. Advis. Sec. Sci. Adv. Rep. 2018/029. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_029-eng.html

⁴⁵⁹ McDermid, J.L., Swain, D.P., Turcotte, F., Robichaud, S.A., & Surette, T. (2018). Assessment of the NAFO Division 4T Southern Gulf of St. Lawrence Atlantic Herring (*Clupea harengus*) in 2016 and 2017. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/052. xiv + 122 p. http://dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2018/2018_052-eng.html

⁴⁶⁰ DFO (2020). Terms of Reference Assessment of Stock Status of Atlantic Herring (*Clupea harengus*) from the Southern Gulf of St. Lawrence (NAFO Div. 4T-4Vn) to 2019 and Advice for the 2020 and 2021 Fisheries. Regional Science Peer Review – Gulf Region. March 12–13, 2020, Moncton, NB. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/03_12-13-eng.html

⁴⁶¹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁶² DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			analysis to inform the development of rebuilding plans for groundfish in the Gulf Region (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). A report was tabled in late March 2018 which emphasized identifying gaps in information as well as providing an overview of current scientific knowledge and basic needs to develop rebuilding plans that are compliant with the precautionary approach. The results of this analysis, in particular the recommendations and suggestions to address the gaps identified, have already proven to be instrumental in guiding rebuilding effort for the Gulf groundfish stocks. A draft rebuilding plan will be presented to the Gulf Groundfish Working Group this fall; the draft plan will then go for review and validation before the Gulf Groundfish Advisory Committee at their March 2021 meeting (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). The stock was included in a pre-COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assessment at a CSAS process in October 2019, ⁴⁶³ reports are not yet available from this process. This stock is part of a population of American plaice (Maritimes designatable unit) that COSEWIC designated as threatened during its last assessment (2009), ⁴⁶⁴ but the population is not listed under the Species at Risk Act. DFO is examining the processes under the fish stocks provisions in the amended Fisheries Act with the Species at Risk Act to ensure alignment and integration where needed (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). However, DFO considers that it would be premature to comment on potential implications for American plaice, as the stock is currently subject to a COSEWIC reassessment and is not prescribed to the fish stocks provisions. For a major stock prescribed under the fish stock provisions that needs a rebuilding plan, the plan will have to meet the requirements in the provisions and in the proposed regulation on rebuilding plans. In addition, these plans will need to align with existing policies where applicable. Stocks that are listed in schedule 1 under SARA as Threatened or Endangered will be exempt from the requirement of a rebuilding plan under the fish stock provisions (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).					
18	Gulf	White hake – 4T; Critical	Develop a workplan that includes compilation of data on the stock and fisheries on the stock to support the development of a rebuilding plan.	New deadline: By end of 2020/21. 2018/19: Meetings with industry to discuss rebuilding objectives. Draft rebuilding plans will be prepared.	Consultant will be hired to draft rebuilding plan in 2019/20.	Draft rebuilding plan to be presented at the Gulf Groundfish Advisory Committee meeting in March 2021.	To be determined, pending completion of workplan in 2017/18 fiscal year. New deadline in 2018/19 work plan: By end of 2020/21.	Not evaluated – deadline not yet passed
			Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁴⁶⁵ The results of the 2019/20 work plan evaluation indicated this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) was complete without a tangible deliverable. ⁴⁶⁶ At the Gulf Groundfish Advisory Committee interim year conference call in March 2020, the department had to end the meeting just before the agenda item pertaining to rebuilding plan updates due to technical difficulties. However, the chair did indicate a working group will be formed for advice and guidance on rebuilding options for stocks in the critical zone. Indicators of abundance for the stock were updated at a CSAS Science Response Process in December 2019. The resultant report does not mention a rebuilding plan, ⁴⁶⁷ but it is suspected the report will inform rebuilding plan development. DFO indicates a consultant was hired during fiscal year 2018/19 to undertake a qualitative analysis to inform the development of rebuilding plans for groundfish in the Gulf Region (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). A report was tabled in late March 2018, which emphasized identifying gaps in information as well as providing an overview of current scientific knowledge and basic needs to develop rebuilding plans that are compliant with the precautionary approach. The results of this analysis, in particular the recommendations and suggestions to address the gaps identified, have already proven to be instrumental in guiding rebuilding effort for the Gulf groundfish stocks. A draft rebuilding plan will be presented to the Gulf Groundfish Working Group this fall; the draft plan will then go for review and validation before the Gulf Groundfish Advisory Committee at their March 2021 meeting (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).					

⁴⁶³ DFO (2019). Terms of Reference. Pre-COSEWIC Assessment for American Plaice. Zonal Peer Review – Newfoundland and Labrador, Maritimes, Gulf, Quebec, and Central and Arctic Regions. October 22–24, 2019, St. John's, NL. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/10_22-24-eng.html

⁴⁶⁴ COSEWIC (2009). COSEWIC Assessment and Status Report on the American Plaice *Hippoglossoides platessoides*, Maritime Population, Newfoundland and Labrador Population and Arctic Population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 74 pp. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_american_plaice_0809_e.pdf

⁴⁶⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁶⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁶⁷ DFO. 2020. Updated Indices of Abundance to 2019 for Winter Flounder from NAFO Div. 4T, Witch Flounder from NAFO Divs. 4RST and White Hake from NAFO Div. 4T. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/008. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_008-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
19	Gulf	Winter flounder – 4T; Critical	Develop a workplan that includes compilation of data on the stock and fisheries on the stock to support the development of a rebuilding plan.	New deadline: By end of 2020/21. 2018/19: Meetings with industry to discuss rebuilding objectives. Draft rebuilding plans will be prepared.	Consultant will be hired to draft rebuilding plan in 2019/20.	Draft rebuilding plan to be presented at the Gulf Groundfish Advisory Committee meeting in March 2021.	To be determined, pending completion of workplan in 2017/18 fiscal year. <u>New deadline in 2018/19 work plan:</u> By end of 2020/21.	Not evaluated – deadline not yet passed
<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. In the work plan results for 2018/19, the department indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁴⁶⁸ The results of the 2019/20 work plan evaluation indicated this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) was complete without a tangible deliverable.⁴⁶⁹ At the Gulf Groundfish Advisory Committee interim year conference call in March 2020, the department had to end the meeting just before the agenda item pertaining to rebuilding plan updates due to technical difficulties. However, the chair did indicate a working group will be formed for advice and guidance on rebuilding options for stocks in the critical zone. Indicators of abundance for the stock were updated at a CSAS Science Response Process in December 2019. The resultant report does not mention a rebuilding plan,⁴⁷⁰ but it is suspected the report will inform rebuilding plan development. DFO indicates a consultant was hired during fiscal year 2018/19 to undertake a qualitative analysis to inform the development of rebuilding plans for groundfish in the Gulf Region (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020). A report was tabled in late March 2018, which emphasized identifying gaps in information as well as providing an overview of current scientific knowledge and basic needs to develop rebuilding plans that are compliant with the precautionary approach. The results of this analysis, in particular the recommendations and suggestions to address the gaps identified, have already proven to be instrumental in guiding rebuilding effort for the Gulf groundfish stocks. A draft rebuilding plan will be presented to the Gulf Groundfish Working Group this fall; the draft plan will then go for review and validation before the Gulf Groundfish Advisory Committee at their March 2021 meeting (Fisheries and Aquaculture Management, and Science, Gulf Region, personal communication, June 23, 2020).</p>								
20	Newfoundland and Labrador	Witch flounder – 2J+3KL; Critical	–	–	Identified as a potential stock for development of rebuilding plan but no specific deliverables identified. Working group established and discussions initiated with stakeholders.	The 2J3KL Witch Flounder Working Group, co-chaired by DFO-Resource Management and DFO-Science was established in 2019 to develop a rebuilding plan. The working group has proposed a USR and will continue work in 2020-21 to develop a draft rebuilding plan. The rebuilding plan, once developed, will be presented to the 2+3KLMNO Groundfish Advisory Committee for consideration.	By end of 2020/21 (newly added to work plan in 2019/20).	Not evaluated – deadline not yet passed
<p>Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. This stock was newly added to section 2 of DFO's 2019/20 fiscal year work plan. However, the stock was included in the "additional work section" of the 2018/19 fiscal year work plan results with an indication that the deliverable (initiate discussion in 2018/19 with industry on rebuilding plan</p>								

⁴⁶⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁶⁹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁷⁰ DFO. 2020. Updated Indices of Abundance to 2019 for Winter Flounder from NAFO Div. 4T, Witch Flounder from NAFO Divs. 4RST and White Hake from NAFO Div. 4T. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/008. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_008-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status	
			development) had been met: the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable. The results of the 2019/20 work plan evaluation also indicated this deliverable was met. ⁴⁷¹ This stock is not included in the departmental Sustainability Survey for Fisheries, so no further updates are available from the survey. The stock was recently assessed at a CSAS process in May 2018, and although the resultant report does not mention rebuilding, ⁴⁷² it is suspected the report will support development of a rebuilding plan. At the November 2019 2J3KL Witch Flounder Advisory Committee meeting, an update was presented on the work of the 2J3KL Witch Flounder Working Group. DFO management indicated the group first met in February 2018 and had subsequent meetings in September, October and November. The group has agreed on proposed objectives and a USR. It was agreed there would be no harvesting while the stock is in the critical zone, where stock status is currently located, but cautious zone harvesting options were still under discussion and exceptional circumstances development was also underway for the developing harvest strategy. Another working group meeting was intended to be held early in 2020 to finalize the harvest strategy. DFO management indicated a draft rebuilding plan would be finalized in 2020 and, once ready, shared with the advisory committee for consideration. At the advisory meeting DFO noted there was general agreement from all stakeholders in the working group and the department was pleased. Hopefully this cooperation can be built upon and transferred to work on other, pending rebuilding plans for groundfish in the region. DFO confirms the 2J3KL Witch Flounder Working Group developed proposed management objectives and an upper stock reference point (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). The working group will reconvene in 2020/21 to further develop the rebuilding plan for this stock, including harvest decision rules, which will go forth to the 2+3KLMNO Advisory Committee for consideration and endorsement.						
21	Newfoundland and Labrador and Quebec	Atlantic cod – 4RS3Pn; Critical	–	–	The existing plan (developed jointly by NL and Quebec Regions) was initially implemented for a period of 5 years and scheduled for review in 2018/19. Stock assessment taking place in the winter of 2019. Regions to collaborate on workplan for review / update beginning in 2019.	DFO will initiate a working group process in 2020-21 to develop a rebuilding plan for 4RS3Pn cod.	By end of 2020/21 (newly added to work plan in 2019/20).	Not evaluated – deadline not yet passed	
			Details: This rebuilding plan is expected to be completed by the end of fiscal 2020/21. This stock was newly added to section 2 of DFO's 2019/20 fiscal year work plan. However, the stock is included in the "additional work section" of the 2018/19 fiscal year work plan results with an indication that the deliverable (rebuilding plan ended on May 31, 2018, review terms of reference in the fall of 2018) had been met: the commitment or action as defined in the description of deliverables (2018/19) is complete without a tangible deliverable. The results of the 2019/20 work plan evaluation also indicated this deliverable was met. ⁴⁷³ The stock was assessed at a CSAS process held in February 2019. Rebuilding is not mentioned in the resultant Science Advisory Report. ⁴⁷⁴ In January 2020 a CSAS Science Response Process was held to update stock status indicators. Again, rebuilding is not mentioned in the resultant report. ⁴⁷⁵ DFO confirms the development of a rebuilding plan for 4RS3Pn cod is a priority (Fisheries and Aquaculture Management, and Science, Newfoundland and Labrador Region, personal communication, June 23, 2020). The Department will initiate a working group process in 2020/21 to develop a rebuilding plan for 4RS3Pn cod. A scientific peer-review of this stock is also planned for 2020/21 (Fisheries and Aquaculture Management, and Science, Quebec and Newfoundland and Labrador regions, personal communication, June 23, 2020).						
22	Quebec	Northern shrimp – Gulf of St.	–	–	Target date to be determined. The stock is not currently in the critical zone; however, it is anticipated to enter that zone	Timeline to be determined. Work will be initiated in parallel with the review of the precautionary approach.	N/A (newly added to work plan in 2019/20)	Not evaluated – deadline not yet passed	

⁴⁷¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁷² DFO (2019). Stock Assessment of Witch Flounder (*Glyptocephalus cynoglossus*) in NAFO Divisions 2J3KL. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2018/053. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_053-eng.html

⁴⁷³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁷⁴ DFO (2019). Assessment of the Northern Gulf of St. Lawrence (3Pn, 4RS) Atlantic Cod Stock in 2018. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/032. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2019/2019_032-eng.html

⁴⁷⁵ DFO (2020). Update of Stock Status Indicators for Northern Gulf of St. Lawrence (3Pn, 4RS) Atlantic Cod in 2019. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/007. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2020/2020_007-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
		Lawrence; Cautious ⁴⁷⁶			soon. Work will begin immediately.			
<p>Details: This stock was newly added to section 2 of DFO's 2019/20 fiscal year work plan. The most recent (2018) results of the DFO Sustainability Survey for Fisheries does not indicate a rebuilding plan is under development.⁴⁷⁷ The stock was assessed at a CSAS meeting held in January 2020. The resultant report does not discuss rebuilding. It indicates that in 2019, the main stock status indicator increased slightly in the Sept-Iles, Anticosti and Esquiman areas but increased markedly in Estuary. The indicator for the four stocks had fallen sharply in previous years. In 2019, the Estuary, Anticosti and Esquiman stocks were in the healthy zone while the Sept-Iles stock was still in the cautious zone.⁴⁷⁸ However, the report also questioned whether the main indicator still accurately reflects the stock status. The precautionary approach framework for this stock is based on an equal mixture of fishery-dependent indices (commercial fishery catch rates) and fishery-independent indices (research survey catch rates), both expressed in number of shrimp, and they are diverging. The main indicator uses commercial fishery catch rates that are suspected to be exhibiting hyperstability, a phenomenon that occurs when catch rates decline more slowly than the population abundance. Scientists expressed concerns about ecosystem and environmental conditions that could hinder shrimp production, about low male abundance observed in recent years and about the downward trend in female size indicating low productivity of these stocks. It is unclear if a rebuilding plan will continue to be pursued. The results of the 2019/20 work plan evaluation also indicated this deliverable was "N/A": the commitment or action as defined in the description of deliverables (2019/20) was not pursued for reasons including no longer being required.⁴⁷⁹ But, the stock was retained in the 2020/21 fiscal year work plan with the indication that rebuilding plan development work will be initiated in parallel with the review of the precautionary approach for the stock group. DFO indicates the state of the stock has slightly improved/stabilized in certain areas, and the priority is currently focused on the revision of the precautionary approach (including harvest control rules) that it has committed to review within the next two to three years (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020). The development of the rebuilding plan will therefore be done in parallel with the revision of the precautionary approach and harvest control rules (Fisheries and Aquaculture Management, and Science, Quebec Region, personal communication, June 23, 2020).</p>								
23	Pacific	Bocaccio – Pacific; Critical	–	–	Completed.	–	By end of 2017/18 (newly added to work plan in 2019/20).	Not evaluated
<p>Details: This stock was newly added to section 2 of DFO's 2019/20 fiscal year work plan, with a deliverable description of "completed." Unsurprisingly, the 2019/20 work plan results also indicate it was completed.⁴⁸⁰ However, the rebuilding plan for bocaccio was completed in 2014.⁴⁸¹ Therefore, it could be perceived as misleading to include this stock in the list of stocks for which rebuilding plans will be developed with an expected date of completion of 2017/18 and a status of completed. While the latter is true, it is not work that was completed in response to the 2016 CESD audit, since this stock was included in a rebuilding plan in 2014. However, the rebuilding plan was updated in 2020 as per the annual IFMP update (see page 244 of the PDF version of the IFMP), and although objectives remained the same, the plan indicates an increase in the mortality cap for the stock based on updated science information (unpublished at time of the decision), from 75 to 363 t in 2020/21.⁴⁸² The rebuilding plan indicates work will occur throughout 2020 and 2021 to refine rebuilding objectives and management measures that will continue to satisfy mortality caps and eventually transition from management under a rebuilding plan to management under the standard IFMP process. The CSAS process referred to in the plan was held to assess the stock and provide guidance for the rebuilding plan in December 2019. The resultant report indicates that the stock is still estimated to be in the critical zone but that a significant recruitment event occurred in 2016 that is projected to rebuild the stock quickly.⁴⁸³ Projections indicate the stock would rebuild above the limit reference point (LRP) with a 95 per cent probability by 2023 at</p>								

⁴⁷⁶ The Oceana Canada (2020) Fishery Audit status for this aggregate stock group is "cautious." However, it should be noted that three of the four components are in the healthy zone: the Estuary, Anticosti and Esquiman stock components were in the healthy zone, while the Sept-Iles stock component was still in the cautious zone in the most recent assessment (providing stock health status estimates for 2019). To be precautionary, Oceana Canada assigned the aggregated record to the cautious zone. The most recent Sustainability Survey for Fisheries (2018 results) also indicates the cautious zone for its record combining the four stock components, but using the previous assessment to inform status.

⁴⁷⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁴⁷⁸ DFO (2020). Assessment of Northern Shrimp Stocks in the Estuary and Gulf of St. Lawrence in 2019. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/010. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_010-eng.html

⁴⁷⁹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁸⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁴⁸¹ DFO (2014). Pacific Region Integrated Fisheries Management Plan, Groundfish, Effective February 21, 2014, Version 1.0. <http://waves-vagues.dfo-mpo.gc.ca/Library/365005.pdf>

⁴⁸² DFO (2020). Appendix 9: Rebuilding Plans for Groundfish Species, in Pacific Region Integrated Fisheries Management Plan. Groundfish. Effective, February 21, 2020. Version 1.0. <https://waves-vagues.dfo-mpo.gc.ca/Library/40854450.pdf>

⁴⁸³ DFO (2020). Bocaccio (*Sebastes paucispinis*) Stock Assessment for British Columbia in 2019, Including Guidance for Rebuilding Plans. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2020/025. http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2020/2020_025-eng.html

#	Region	Stock and health status zone	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Deadline for completion	Status
			catch levels up to 600 t/year (the highest levels tested in projections), with over a 90 per cent probability of being above the USR by 2025 at 400 t/year (the level chosen by management). It is anticipated work to revise the rebuilding plan will be ongoing in 2020/21.					
24	Pacific	Interior Fraser coho Uncertain††	—	—	—	Begin to develop rebuilding plan in 2020-21.	TBD (newly added to workplan in 2020/21).	Not evaluated – deadline not yet passed
			Details: This stock was newly added to section 2 of DFO's 2020/21 fiscal year work plan. This stock is not included in the most recent (2018) results of the DFO Sustainability Survey for Fisheries, so further information is not available from the survey. ⁴⁸⁴ The 2019/20 IFMP does not mention intentions to develop a rebuilding plan for this stock, although this stock is discussed at length within it. ⁴⁸⁵					
25	Pacific	Okanagan chinook Uncertain††	—	—	—	Begin to develop rebuilding plan in 2020-21.	TBD (newly added to work plan in 2020/21).	Not evaluated – deadline not yet passed
			Details: This stock was newly added to section 2 of DFO's 2020/21 fiscal year work plan. This stock is not included in the most recent (2018) results of the DFO Sustainability Survey for Fisheries, so further information is not available from the survey. ⁴⁸⁶ The 2019/20 IFMP does not mention intentions to develop a rebuilding plan for this stock, although this stock is discussed at length within it. ⁴⁸⁷					

† denotes status assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results.

†† denotes uncertain status assignments when stocks were not included in either the Sustainability Survey for Fisheries dataset or Oceana Canada's Fishery Audit dataset.

⁴⁸⁴ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁴⁸⁵ DFO (2019). Pacific Region Final Integrated Fisheries Management Plan. June 1, 2019 – May 31, 2020. Salmon. Southern BC. <https://waves-vagues.dfo-mpo.gc.ca/Library/40799104.pdf>

⁴⁸⁶ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁴⁸⁷ DFO (2019). Pacific Region Final Integrated Fisheries Management Plan. June 1, 2019 – May 31, 2020. Salmon. Southern BC. <https://waves-vagues.dfo-mpo.gc.ca/Library/40799104.pdf>

Table 6. **Work plan sections 3A, 3B and 3C; Integrated Fisheries Management Plans (IFMPs):** In section 3 of its annual work plan, Fisheries and Oceans Canada (DFO) prioritizes the stocks or stock groups to be included in new IFMPs (3A), have their IFMPs updated (3B), and/or have their IFMPs made available on the departmental website (3C) (DFO 2017, DFO 2019a, DFO 2019b, DFO 2020a). The table below summarizes all fiscal year section 3 deliverables⁴⁸⁸ by stock or stock group, with most recent health status⁴⁸⁹ and status towards completion as assessed by Oceana Canada. Checkmark symbols with fiscal year indicate the type of IFMP deliverable, while annual deliverable descriptions provided by DFO are also included in associated columns. Stocks with completed IFMPs that are available online are noted as completed, stocks that have had deadlines shifted or delays in progress indicated by DFO are noted as delayed, and stocks for which the deadline has not yet passed are noted as ongoing. (Please note that the table does not include an assessment of plan quality.) Details on status determinations are provided for stocks included in the 2017/18, 2018/19 and 2019/20 work plans. Stocks appearing first, before the bold line separating rows (rows 1–21), were previously assessed as completed in the 2018 or 2019 evaluation. Stocks after the bold line but before the bold dashed line (rows 22–46) were evaluated this year and included in the evaluation summary table above (Table 1). Stocks appearing after the dashed bold line (row 47) appear only in the 2020/21 work plan and were not evaluated for status completion.

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
1	Central and Arctic	Atlantic walrus – Baffin Bay (High Arctic); Uncertain†		✓2017/18	✓2017/18	Final version of the IFMP for Atlantic walrus (<i>Odobenus rosmarus rosmarus</i>) in the Nunavut Settlement Area to be sent to Nunavut Wildlife Management Board for final approval in the 2017/18 fiscal year. Signing of the final IFMP expected in the 2017/18 fiscal year. IFMP will be made accessible online after approval, in the 2017 to 2018 fiscal year.				Previously completed (2018)
		Atlantic walrus – Northern Foxe basin; Uncertain†								
Details: The Atlantic walrus in the Nunavut Settlement Area IFMP was approved by the NWMB on December 22, 2017 and by DFO on February 1, 2018. The IFMP is available on the DFO website, with a last-modified date on the webpage of April 3, 2018 and containing information up to and including 2017. ⁴⁹⁰										
2	Maritimes	Sea scallop – inshore SFA 28 (Bay of Fundy); Healthy	✓2017/18			New IFMP: One “Inshore scallop IFMP” covering both stocks is in the final stages and will be finalized and posted on the DFO website in the 2017/18 fiscal year.				Previously completed (2018)
		Sea scallop – inshore SFA 29W; Healthy								
Details: The Inshore Scallop – Maritimes Region – 2015 IFMP is available on the DFO website, with a last-modified date on the webpage of February 9, 2017, ⁴⁹¹ indicating the work completed in the previous fiscal year (2016/17). The plan contains information up to and including 2014.										

⁴⁸⁸ As stated in DFO work plans.

⁴⁸⁹ Health status was assigned primarily using Oceana Canada’s Fishery Audit dataset (Oceana Canada 2020), with † denoting assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results (DFO 2019k) and †† denoting uncertain status assigned when stocks were not included in either dataset. As some records represent multiple stocks that appear as more than one record in the datasets used to assign status, all unique statuses for stocks within stock groups are included when applicable.

⁴⁹⁰ DFO (2018). Integrated Fisheries Management Plan. Atlantic Walrus in the Nunavut Settlement Area. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/walrus-atl-morse/walrus-nunavut-morse-eng.html>

⁴⁹¹ DFO (2017). Integrated Fisheries Management Plan. Inshore Scallop – Maritimes Region – 2015. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/scallop-petioncle/scallop-petioncle2015-toc-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
3	Newfoundland and Labrador	Atlantic herring – 2J3KLPs; Uncertain	✓2017/18		✓2017/18	New IFMP: IFMP will be finalized in fiscal the 2017/18 fiscal year. IFMP will be made accessible online, after completion of update, by March 31, 2018.				Previously completed (2018)
						Details: The Herring – Newfoundland and Labrador Region 2+3 (Herring Fishing Areas 1–11) IFMP (effective 2017) is available on the DFO website, with a last-modified date on the webpage of March 28, 2018 and containing information up to and including 2017. ⁴⁹²				
4	Newfoundland and Labrador	Capelin – SA2+3KLPs; Uncertain			✓2017/18	IFMP will be made accessible, after completion of update, by March 31, 2018.				Previously completed (2018)
		Capelin – 4RST; Uncertain								
5	Newfoundland and Labrador	Atlantic herring – 4R; Healthy, Critical	✓2017/18		✓2017/18	New IFMP: IFMP will be finalized in the 2017/18 fiscal year. IFMP will be made accessible online, after completion of update, by March 31, 2018.				Previously completed (2018)
						Details: The Herring – Newfoundland and Labrador Region 4R3Pn IFMP (effective 2017) is available on the DFO website, with a last-modified date on the webpage of March 27, 2018 and containing information up to and including 2017. ⁴⁹⁵				
6	Quebec	Lobster – 19, 20, 21; Healthy	✓2017/18 ✓2018/19		✓2018/19	New IFMP: IFMP will be finalized and posted on the DFO website in the 2017/18 fiscal year. IFMP will be made accessible online by March 31, 2018.	Lobster – 19, 20 and 21 IFMP will be completed and posted by end of 2018/19. Lobster 19, 20 and 21 was previously noted for completion in 2017/18. Completed and posted by end of 2018-19.			Previously completed (2018)

⁴⁹² DFO (2018). Integrated Fisheries Management Plan. Herring – Newfoundland and Labrador Region 2+3 (Herring Fishing Areas 1-11) – Effective 2017. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-areas-1-11-zones-2-3-hareng-eng.html>

⁴⁹³ DFO (2018). Integrated Fisheries Management Plan. Capelin Northwest Atlantic Fisheries Organization Divisions 4RST (Capelin Fishing Areas 12-16). Effective 2017. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/capelin-capelan/index-eng.html>

⁴⁹⁴ DFO (2019). Integrated Fisheries Management Plan. Capelin Newfoundland & Labrador Region 2+3 (Capelin Fishing Areas 1–11). <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/capelin-area1-11-zone-capelan/capelin-capelan-2018-eng.html>

⁴⁹⁵ DFO (2018). Integrated Fisheries Management Plan. Herring – Newfoundland and Labrador Region 4R3Pn – Effective 2017. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-4r3pn-hareng-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: The new IFMP was not completed in the 2017/18 fiscal year. As indicated in the 2018/19 work plan, it was delayed, and it was anticipated it would be completed and posted by the end of the 2018/19 fiscal year. The Lobster Fishery – Areas 19, 20 and 21 IFMP is now completed and available on the DFO website, with a last-modified date on the webpage of June 6, 2018 and containing information up to and including 2018.⁴⁹⁶ In the work plan results for 2018/19, the department also indicates the deliverable was completed; a tangible deliverable is complete and available as a result.⁴⁹⁷</p>							
7	Maritimes	American eel (elvers) – Maritimes Region; Uncertain†		✓2017/18		An update of the elvers IFMP is anticipated to be completed by March 31, 2018.				Previously completed (2019)
			<p>Details: The IFMP was updated in fiscal 2017/18, and it was anticipated that it would be posted in 2018/19, which unfortunately was not captured in the 2018/19 work plan (N. Schjott, personal communication, June 29, 2018). The Elver IFMP (Evergreen) Maritimes Region is now available on the DFO website, with a last-modified date on the webpage of August 7, 2018 and containing information up to and including 2016.⁴⁹⁸ The work plan results for 2018/19, in the “additional work” section, also indicates the deliverable was completed; a tangible deliverable is complete and available as a result.⁴⁹⁹</p>							
8	Maritimes	Dogfish – Atlantic Canada 4VWNX-5; Cautious Atlantic cod – 4X5Y; Critical Atlantic cod – 5Zjm; Critical Atlantic halibut – 3NOPs4VWX +5; Healthy Haddock – 4X5Y; Uncertain Haddock – 5Zjm; Healthy Pollock – 4X5 (western component); Uncertain	✓2017/18	✓2018/19	✓2017/18	New IFMP: One “Groundfish IFMP” for these 10 stocks is under development. Anticipated completion by March 31, 2018. Groundfish IFMP will be made accessible online, after completion by March 31, 2018.	Update to LRPs (for Atlantic Canada [dogfish]), if Science determines that a change needs to be made (LRPs will be reviewed by Science in 2018/19). ⁵⁰⁰ Update to limit reference points [Atlantic cod – 4X5Y], if Science determines that a change needs to be made (limit reference points will be reviewed by Science in 18/19).			Previously completed (2019)

⁴⁹⁶ DFO (2018). Integrated Fisheries Management Plan. Lobster Fishery – Areas 19, 20 and 21. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/lobster-homard/index-eng.html>

⁴⁹⁷ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁴⁹⁸ DFO (2018). Elver Integrated Fisheries Management Plan (Evergreen). Maritimes Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/elver-anguille/index-eng.html>

⁴⁹⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁰⁰ The 2018/19 deliverables description for dogfish in Atlantic Canada and Atlantic cod in NAFO 4X5Y are a description of updates to the section of IFMP pertaining to these stocks that may be required if it is determined the limit reference points need to be changed (N. Schjott, personal communication, June 29, 2018).

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		Redfish – unit 3; Healthy Silver hake – 4VWX; Healthy Yellowtail flounder – 5Z; Uncertain								
<p>Details: The multi-stock groundfish IFMP for the Maritimes Region was completed and approved by the end of fiscal 2017/18 but was not posted online (P. Doherty, personal communication, May 3, 2018). It was anticipated that the IFMP would be posted in fall 2018/19. The 4VWX5 Groundfish – Maritimes Region IFMP is now available on the DFO website, with a last-modified date on the webpage of December 21, 2018 and containing information up to and including 2017.⁵⁰¹ The work plan results for 2018/19, in the additional work section, also indicates the department considers this deliverable was completed; a tangible deliverable is complete and available as a result.⁵⁰² The 2018/19 results also has two rows in the additional work section that indicate a result of “N/A” for two stock-specific deliverables pertaining to reference points for Atlantic cod in NAFO 4X5Y and Atlantic spiny dogfish. These deliverables with descriptions pertaining to reference points were actually in the IFMP sub-work plans with this stock group in the 2017/18 and 2018/19 fiscal year work plan for cod and dogfish, respectively. These were likely the wrong location for these deliverables, as they also appeared in the LRP sub-work plans and have been completed.</p>										
9	Maritimes	Sea scallop – offshore SFA 26, German, Browns; Uncertain Sea scallop – offshore SFA 27 Georges; Healthy		✓2017/18	✓2017/18	An update of the offshore scallop IFMP is anticipated to be completed by March 31, 2018. The offshore scallop IFMP is under development. Anticipated to be made accessible online by March 31, 2018.				Previously completed (2019)
<p>Details: The offshore scallop IFMP was not posted online in fiscal 2017/18. There were some delays in preparing the IFMP in a way that met the required accessibility standards required to post online, but these revisions were underway, and it was anticipated to be posted online in summer 2018 (C. Bernier, personal communication, August 8, 2018). The Offshore Scallop – Maritimes Region IFMP is available on the DFO website, with a last-modified date on the webpage of July 31, 2018 and containing information up to and including 2017.⁵⁰³ In the “additional work” section of the work plan results for 2018/19, the department also indicates the deliverable was completed; a tangible deliverable is complete and available as a result.⁵⁰⁴</p>										
10	National Capital Region	Bluefin tuna – western Atlantic; Uncertain		✓2017/18		Western Atlantic Bluefin Tuna IFMP will be updated in the 2017/18 fiscal year.				Previously completed (2019)
<p>Details: The IFMP was updated in fiscal 2017/18, and it was anticipated that it would be posted in 2018/19, which unfortunately was not captured in the 2018/19 work plan (N. Schjott, personal communication, June 29, 2018). The Canadian Atlantic Bluefin Tuna (<i>thunnus thynnus</i>) – NAFO Fishing Areas 3KLNOP, 4RSTVWX and 5YZ – 2017 IFMP is now available on the DFO website,</p>										

⁵⁰¹ DFO (2018). Integrated Fisheries Management Plan. 4VWX5 Groundfish – Maritimes Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-4vwx5-eng.html>

⁵⁰² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁰³ DFO (2018). Integrated Fisheries Management Plan. Offshore Scallop - Maritimes Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/scallop-petoncle/2018/index-eng.html>

⁵⁰⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			with a last-modified date on the webpage of January 10, 2019 and containing information up to and including 2017. ⁵⁰⁵ In the “additional work” section of the work plan results for 2018/19, the department also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵⁰⁶							
11	Newfoundland and Labrador	Lobster – LFA 3, 4, 6–9, 12, 13AB, 14C; Uncertain Lobster – LFA 5, 10, 11, 14A–B; Uncertain		✓2017/18	✓2018/19	NL Lobster IFMP will be updated with a target of fall 2017.	Posted online by end of 2018/19.			Previously completed (2019)
			Details: The IFMP update was completed in 2017/18 (N. Schjott, personal communication, July 27, 2018), but it was not posted online that year. As the 2018/19 work plan indicates, the intention was to post it online in 2018/19. The American Lobster – Lobster Fishing Area 3–14C IFMP is now available on the DFO website, with a last-modified date on the webpage of January 7, 2019 and containing information up to and including 2017. ⁵⁰⁷ The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵⁰⁸							
12	National Capital Region	Northern shrimp SFAs 0–7; Critical, Cautious, Healthy, Uncertain		✓2017/18	✓2018/19	Northern shrimp IFMP will be updated in the 2017/18 fiscal year.	Northern shrimp: Posted online by end of 2018/19.			Previously completed (2019)
			Details: The IFMP was updated in 2017/18, but it was not approved by the end of the fiscal year. It was to be approved and posted online in 2018/19 (L. Edgar, personal communication, June 18, 2018), as per the 2018/19 work plan. The IFMP for northern shrimp and striped shrimp in shrimp fishing areas 0, 1, 4–7, the Eastern and Western Assessment Zones and North Atlantic Fisheries Organization (NAFO) Division 3M is now available on the DFO website, with a last-modified date on the webpage of November 1, 2018 and containing information up to and including 2018. ⁵⁰⁹ The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵¹⁰							
13	Pacific	Eulachon; Uncertain†		✓2017/18		Update to IFMP by end of the 2017/18 fiscal year.				Previously completed (2019)
			Details: The IFMP was updated in the 2017/18 fiscal year (N. Schjott, personal communication, June 29, 2018) but not posted online that year. At this time last year (2019), the Fraser River Eulachon 2019 IFMP summary was available on the DFO website, with a last-modified date on the webpage of January 23, 2019 and the indication that the plan covers January 1, 2019 to December 31, 2019. Importantly, there was also a link to a PDF file of the complete IFMP provided at the bottom of the summary webpage. The 2020 IFMP summary is now available and link to the full 2020 IFMP is still provided. ⁵¹¹							
14	Quebec	Northern shrimp – Gulf of St. Lawrence SFA			✓2017/18	IFMP will be made accessible online by March 31, 2018.				Previously completed (2019)
			Details: There were delays in the approvals process in 2017/18, but the IFMP was approved in 2018/19, and it was expected it would be posted online in fall of 2018 (C. Bernier, personal communication, August 8, 2018). The IFMP for northern shrimp – areas 8, 9, 10 and 12 (Estuary and Gulf of St. Lawrence) is available on the DFO website, and although the last-modified date on							

⁵⁰⁵ DFO (2019). Integrated Fisheries Management Plan. Canadian Atlantic Bluefin Tuna (*thunnus thynnus*) – NAFO Fishing Areas 3KLNOP, 4RSTVWX and 5YZ – 2017. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/bluefin-tuna-thon-rouge/bluefin-tuna-thonrouge2017-eng.html>

⁵⁰⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁰⁷ DFO (2019). Integrated Fisheries Management Plan. American Lobster - Lobster Fishing Area 3–14C. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/lobster-homard/area-zone-3-14c-eng.html>

⁵⁰⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁰⁹ DFO (2018). Integrated Fisheries Management Plan. Northern Shrimp and Striped Shrimp – Shrimp Fishing Areas 0, 1, 4–7, the Eastern and Western Assessment Zones and North Atlantic Fisheries Organization (NAFO) Division 3M. Effective 2018. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-002-eng.html>

⁵¹⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵¹¹ DFO (2020). Fraser River Eulachon 2020 Integrated Fisheries Management Plan Summary. <http://www.pac.dfo-mpo.gc.ca/fm-gp/mplans/eulachon-eulakane-ifmp-pgip-sm-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		8, 9, 10, 12; Cautious								
15	Quebec	Lobster – LFA 22; Healthy			✓2017/18	IFMP will be made accessible online by March 31, 2018.				Previously completed (2019)
			<p>Details: The IFMP update was completed in 2017/18 but was still awaiting approvals as the end of the fiscal year (N. Schjott, personal communication, July 27, 2018). The Lobster Fishing Area 22 (Quebec Region – Magdalen Islands Area) IFMP is now completed and available on the DFO website, with a last-modified date on the webpage of August 24, 2018 and containing information up to and including 2018.⁵¹⁴ In the “additional work” section of the work plan results for 2018/19, the department also indicates the deliverable was completed; a tangible deliverable is complete and available as a result.⁵¹⁵</p>							
16	Central and Arctic	Narwhal – High Arctic and northern Hudson Bay; Uncertain†			✓2018/19		Completed and posted by end of 2018/19.			Previously completed (2019)
			<p>Details: The 2018/19 work plan simply indicates the intention to post the IFMP online, although the deliverable description includes “completed and posted,” implying an up-to-date IFMP would be completed prior to being posted. The Integrated Fisheries Management Plan for narwhal in the Nunavut Settlement Area (<i>Monodon monoceros</i>) Effective April 1, 2013 is available on the DFO website, with a last-modified date on the website of March 26, 2019.⁵¹⁶ DFO did meet their commitment to post an IFMP online, but the IFMP only contains information up to and including 2013, indicating it is old. The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. The update did not happen because the five-year review of the IFMP was postponed until new DFO Science advice is published (N. Schjott, personal communication, June 25, 2019). This stock is co-managed. In October 2018, DFO met with co-management partners (Nunavut Wildlife Management Board, Nunavut Tunngavik Inc. and the Regional Wildlife Organizations) to discuss ongoing narwhal management in the Nunavut Settlement Area. There was consensus among the co-management partners to postpone the five-year review of the IFMP until the new DFO Science advice is published on the connectivity between the Admiralty Inlet and Eclipse Sound stocks, as well as the Eclipse Sound stock population estimate, which is expected in 2019/20. This Science advice is required by the Nunavut Wildlife Management Board’s decision-making process for modifying the total allowable harvests for the Admiralty Inlet and Eclipse Sound narwhal stock. Last year (2019), it was indicated the IFMP would be reviewed once all co-management partners have the information required to complete updates (N. Schjott, personal communication, June 25, 2019). A CSAS process was held in February 2019 to assess new scientific information, including recent tagging data for the Eclipse Sound and Admiralty Inlet narwhal, determine if the current summering aggregations are accurate and assess their status in order to revise the sustainable harvest recommendation.⁵¹⁷ A second CSAS process was held in February 2020 to provide an updated abundance estimate for the Northern Hudson Bay narwhal population. The terms of reference for this process indicated the resultant science advice would be used to update the existing IFMP and be submitted to the Nunavut Wildlife Management Board for decisions.⁵¹⁸ No reports are available yet from either meeting, and at this time it is still the 2013 IFMP that is publicly available on the DFO website.</p>							
17	Newfoundland and Labrador	American plaice – 2+3K and 3NLO; Critical	✓2018/19		✓2018/19		Groundfish 2+3KLMNO IFMP will be completed and posted by end of 2018/19.			Previously completed (2019)

⁵¹² DFO (2017). Integrated Fisheries Management Plan. Northern Shrimp – Areas 8, 9, 10 and 12 (Estuary and Gulf of St. Lawrence). <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/shrimp-crevette/shrimp-crevette-2018-eng.html>

⁵¹³ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵¹⁴ DFO (2018). Integrated Fisheries Management Plan. Lobster Fishing Area 22 (Quebec Region – Magdalen Islands Area). <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/lobster-homard/area-zone-22-eng.html>

⁵¹⁵ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵¹⁶ DFO (2019). Integrated Fisheries Management Plan for Narwhal in the Nunavut Settlement Area (*Monodon monoceros*) Effective April 1, 2013. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/narwhal-narval/index-eng.html>

⁵¹⁷ DFO (2019). Terms of Reference. National Marine Mammal Peer Review Committee (NMMPRC): February 2019 Biannual Meeting. National Peer Review – National Capital Region. February 11–15, 2019, Vancouver, BC. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2019/02_11-15-eng.html

⁵¹⁸ DFO (2020). Terms of Reference. National Marine Mammal Peer Review Committee (NMMPRC): February 2020 Biannual Meeting. National Peer Review – National Capital Region. February 17–22, 2020, Ottawa, Ontario. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/02_17-22-eng.html

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		Redfish - 2+3K; Uncertain Grenadier - 2+3KL; Uncertain Winter flounder - 2+3KL; Uncertain Witch flounder - 2+3KL; Critical Greenland halibut (turbot) - 2+3K; Uncertain Greenland halibut (turbot) - 3LMNO; Uncertain Atlantic cod - 2GH; Uncertain Lumpfish - 2GHL & 3KL; Uncertain Haddock - 3LNO; Uncertain Skates - 3LNO; Uncertain Yellowtail - 3NLO; Healthy					Completed and posted by end of 2018/19.			

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		Atlantic cod – 2J3KL (northern); Critical	Details: The IFMP for Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO was completed and is available on the DFO website, with a last-modified date on the webpage of April 26, 2019 and containing information up to and including 2019. ⁵¹⁹ The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵²⁰							
18	Newfoundland and Labrador	Snow crab – Newfoundland and Labrador Region; Critical, Cautious		✓2018/19	✓2018/19		Updated and posted by end of 2018/19. Updated and posted by end of 2018/19.			Previously completed (2019)
			Details: The IFMP for Snow Crab – Newfoundland and Labrador Region was completed and is available on the DFO website, with a last-modified date on the webpage of May 15, 2019 and containing information up to and including 2019. ⁵²¹ The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵²²							
19	Newfoundland and Labrador	Sea cucumber – 3Ps; Uncertain	✓2018/19		✓2018/19		3Ps Sea Cucumber IFMP will be completed and posted by end of 2018/19. Completed and posted by end of 2018/19.			Previously completed (2019)
			Details: The IFMP for Sea Cucumber Newfoundland and Labrador Region 3Ps was completed and is available on the DFO website, with a last-modified date on the webpage of June 25, 2019 and containing information up to and including 2019. ⁵²³ The work plan results for 2018/19 indicates the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵²⁴ This is likely due to it being posted online in fiscal 2019/20.							
20	Newfoundland and Labrador	Sea scallop – Newfoundland and Labrador Region; Uncertain		✓2018/19	✓2018/19		Updated and posted by end of 2018/19. Updated and posted by end of 2018/19.			Previously completed (2019)
			Details: The IFMP for Scallop – Newfoundland and Labrador Region was completed and is available on the DFO website, with a last-modified date on the webpage of April 2, 2019 and containing information up to and including 2019. ⁵²⁵ The work plan results for 2018/19 also indicates the deliverable was completed; a tangible deliverable is complete and available as a result. ⁵²⁶							
21	Quebec	Snow crab – coastal/inshor	✓2018/19		✓2018/19		Snow Crab Coastal areas 13 to 17, 12ABC and 16A IFMP will			Previously completed (2019)

⁵¹⁹ DFO (2019). Integrated Fisheries Management Plan. Groundfish Newfoundland and Labrador Region. NAFO Subarea 2 + Divisions 3KLMNO. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/groundfish-poisson-fond-2_3klmno-eng.htm

⁵²⁰ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵²¹ DFO (2019). Integrated Fisheries Management Plan. Snow Crab - Newfoundland and Labrador Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/index-eng.htm>

⁵²² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵²³ DFO (2019). Integrated Fisheries Management Plan. Sea Cucumber Newfoundland and Labrador Region 3Ps. http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/sea_cucumber-holothurries/2019/index-eng.html

⁵²⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵²⁵ DFO (2019). Integrated Fisheries Management Plan. Scallop – Newfoundland and Labrador Region. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/scallop-petonce/2019/index-eng.html>

⁵²⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		e Quebec Region (12A, 12B, 12C, 13, 14, 15, 16, 16A, 17); Uncertain					be completed and posted by end of 2018/19. Snow Crab Inshore (13 to 17, 12 ABC, and 16A) completed and posted by end of 2018/19.			
<p>Details: The IFMP for Snow Crab – Estuary and Northern Gulf of St. Lawrence Inshore Areas (12A, 12B, 12C, 13, 14, 15, 16, 16A and 17) was completed and is available on the DFO website, with a last-modified date on the webpage of June 6, 2019 and containing information up to and including 2019.⁵²⁷ The work plan results for 2018/19 indicates the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁵²⁸ This is likely due to it being posted online in fiscal 2019/20.</p>										
22	Central and Arctic	Dolly Varden – North Slope Dolly Varden; Big Fish, Firth, Babbage, Vittrekwa; Cautious [†]		✓2017/18	✓2018/19 ✓2019/20	The IFMP for Dolly Varden will be updated by March 31, 2018.	Posted online by end of 2018-19.	Will post IFMP in 2019/20. Deliverable previously noted for completion in 2018/19.		Delayed
<p>Details: The IFMP was updated in 2017/18 but was not approved, as there were delays in the final review. In 2018/19 it was anticipated that the IFMP would be approved and posted (N. Schjott, personal communication, June 29, 2018). The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁵²⁹ It was also noted in the 2019/20 work plan that this deliverable was not completed. These stocks are co-managed and require approvals from partners (e.g., Nunavut Wildlife Management Board, Gwich'in Renewable Resources Board) in addition to approvals within DFO (N. Schjott, personal communication, June 25, 2019). As such, the IFMP approval is dependent on the capacity, availability and decisions of co-management partners. Last year, it was anticipated the IFMP would be approved and posted online in 2019/20. The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁵³⁰ The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the IFMP for Northern Dolly Varden was updated recently and is currently at the IFMP Steering Committee for final review and approval and that it will be in effect from 2019–2023.⁵³¹ DFO indicates the IFMP was completed and signed off by all partners, and it will be posted this fiscal year, 2020/21 (Fisheries and Aquaculture Management, Arctic Region, personal communication, June 23, 2020).</p>										
23	Gulf	Atlantic salmon – Gulf of St. Lawrence; Critical [†]		✓2017/18 ✓2019/20 0 ✓2020/21	✓2018/19 ✓2019/20 0 ✓2020/21	An update to be completed in the 2017/18 fiscal year.	Posted online by end of 2018-19.	Will update IFMP in 2019/20. Deliverable previously noted for completion in 2018/19. IFMP will be updated and posted in 2019-20. Deliverable previously noted for completion in 2018-19.	Will complete IFMP update in 2020-21. Will post updated IFMP online in 2020-21.	Delayed

⁵²⁷ DFO (2019). Integrated Fisheries Management Plan. Snow Crab – Estuary and Northern Gulf of St. Lawrence Inshore Areas (12A, 12B, 12C, 13, 14, 15, 16, 16A and 17). <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/snow-crab-neige/2019/snow-crab-neiges-eng.html>

⁵²⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵²⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵³⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵³¹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: The IFMP update was completed in 2017/18 but was still awaiting approvals at the end of the fiscal year (N. Schjott, personal communication, July 27, 2018). The IFMP was to be posted online in 2018/19. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁵³² This was also noted in the 2019/20 work plan, and last year it was anticipated the IFMP would be posted online in fiscal year 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the IFMP is under development and could be completed in spring of 2020, but that was noted as to be confirmed.⁵³³ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁵³⁴ The 2020/21 fiscal year work plan indicates the IFMP update will be completed and the plan posted online this fiscal year. DFO confirms the IFMP update is well underway and will be completed by March 2021 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).</p>							
24	Gulf	Atlantic halibut – (4RST); Uncertain Atlantic cod – northern Gulf of St. Lawrence (3Pn, 4RS); Critical Atlantic cod – southern Gulf of St. Lawrence, 4TVn; Critical American plaice – southern Gulf of St. Lawrence, 4T; Critical White hake – 4T; Critical Winter flounder – 4RST; Critical Witch flounder – 4RST; Cautious		✓2019/20 ✓2020/21	✓2017/18 ✓2018/19	Gulf of St. Lawrence groundfish IFMP will be made accessible online by March 31, 2018.	Posted online by end of 2018/19. Gulf of St. Lawrence Groundfish IFMP previously noted for completion in 2017/18.	Will update IFMP in 2019/20. Deliverable previously noted for completion in 2018-19.	Will complete IFMP update in 2020-21.	Delayed

⁵³² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵³³ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵³⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		Yellowtail flounder – 4T; Critical Greenland halibut (turbot) – 4RST; ⁵³⁵ Cautious Acadian and deepwater redfish – Unit 1; ⁵³⁶ Cautious , Healthy								
			<p>Details: The IFMP was updated in 2017/18 but was not approved for posting by the end of the fiscal year. It was anticipated that final approvals would be obtained and the IFMP posted by the end of fiscal 2018/19 (C. Lavoie, personal communication, July 6, 2018). A Gulf groundfish IFMP containing information up to and including 2017 can be found on the internet with a last-modified date of January 24, 2017;⁵³⁷ it cannot be navigated to from the DFO IFMP website.⁵³⁸ This IFMP being online may be a mistake, given this IFMP was considered to be still under development according to the 2019/20 fiscal year work plan. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁵³⁹ Last year it was anticipated the IFMP would be officially posted online in 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries has varying responses pertaining to IFMP questions for stocks anticipated to be included in this multispecies IFMP. Some indicate there is no IFMP and none are under development (e.g. Atlantic halibut 4RST), while others indicate the current IFMP is out of date and is being updated, with a completion date of March, 2020 (e.g., Atlantic cod 4TVn).⁵⁴⁰ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable.⁵⁴¹ The 2020/21 fiscal year work plan indicates the IFMP update will be completed this fiscal year. DFO indicates the IFMP update is nearly done; there have been some capacity and operational issues along the way that created delays (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020). DFO is still planning on completing the IFMP update and posting it online in 2020/21 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).</p>							
25	Gulf	Atlantic herring – 4T fall spawner (fixed gear)/(mobile gear); Cautious Atlantic herring – 4T spring		✓2020/2 1	✓2017/1 8 ✓2018/1 9 ✓2020/2 1	The IFMP herring in the southern Gulf of St. Lawrence herring fishing areas 16A to 16G will be made available online in fall 2017.	Posted online by end of 2018-19. Southern Gulf of St. Lawrence-Herring Fishing Areas 16A to 16G (Herring 4T) were previously noted for completion in 2017/18.		Will complete IFMP update in 2020-21. Will post updated IFMP online in 2020-21.	Delayed
			<p>Details: As noted in the 2018/19 work plan, posting did not occur in 2017/18 as anticipated but was to occur in 2018/19. The IFMP was still not posted online as of the evaluation last year (2019). The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables</p>							

⁵³⁵ This stock is listed in work plan 3 of the 2017/18 and 2018/19 fiscal year work plans twice, once with the Gulf Region under the multi-stock groundfish IFMP and once for the Quebec Region as a single-stock IFMP. Quebec Region leads the science on this stock, while management falls under both regions. Last year Oceana Canada only included one record for this stock, under the Gulf Region groundfish IFMP. But, it has since been clarified that this stock is likely to be included in two IFMPs: the Gulf Region Groundfish IFMP and a single-stock IFMP developed by the Quebec Region. The latter IFMP will be specific to harvesters based in Quebec and will likely contain more detailed information on the stock than the multispecies groundfish IFMP for the Gulf Region.

⁵³⁶ This stock is incorrectly listed in the 2017/18 work plan 3 as unit 2, but the Gulf Region has traditionally been responsible for the management of unit 1. Departmental officials indicated it was meant to read unit 1 (M. Clemens, personal communication, June 7, 2018).

⁵³⁷ DFO (2017). Integrated Fisheries Management Plan. Groundfish – Gulf of St. Lawrence (NAFO) Subdivisions 3Pn, 4Vn and Divisions 4RST – January 2017. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-div3pn-eng.html>

⁵³⁸ DFO (2020). Integrated Fisheries Management Plans. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/index-eng.html>

⁵³⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁴⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁴¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		spawner; Critical	(2018/19). ⁵⁴² Even though this stock was not included in the 2019/20 work plan, it was anticipated the IFMP would be posted online in 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is out of date and is being updated, with a completion date of March 2020. ⁵⁴³ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was met; the commitment or action as defined in the description of deliverables (2019/20) is complete without a tangible deliverable. ⁵⁴⁴ The 2020/21 fiscal year work plan indicates the IFMP will be updated and posted online this fiscal year. DFO indicates the IFMP update is nearly done; there have been some capacity and operational issues along the way that created delays (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020). DFO is still planning on completing the IFMP update and posting it online in 2020/21 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).							
26	Gulf	Rock crab – LFAs 23–26 (LFA 23, 24, 25, 26A and 26B); ⁵⁴⁵ Uncertain	✓2017/18	✓2019/20	✓2018/19	New IFMP: “Rock crab in the southern Gulf, LFA 24, 25, 26A and 26B IFMP” will be finalized in the 2017/18 fiscal year.	Posted online by end of 2018-19.	Will complete and post online in 2019-20.		Delayed
			Details: The previously existing IFMP was updated in 2017/18, but final comments were pending from industry at the end of the fiscal year, delaying approvals. It was anticipated that the IFMP would be approved and posted in 2018/19 (N. Schjott, personal communication, June 29, 2018). The work plan results for 2018/19 indicates the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁴⁶ The 2019/20 work plan also indicated the delay and that the IFMP will be updated again and posted online in 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is out of date and is being updated, with a completion date of March 2020. ⁵⁴⁷ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁴⁸ DFO indicates the IFMP has been completed but needs to be approved before being published online, which was postponed due to the COVID-19 pandemic and other pressing issues (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020). The IFMP will be posted online in 2020/21 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).							
27	Gulf	Scallop – southern Gulf of St. Lawrence (SFA 21a, b, c, 22, 23, 24); Uncertain	✓2017/18	✓2019/20	✓2018/19 ✓2019/20	New IFMP: “Giant scallops in the southern Gulf of St. Lawrence, SFA 21 to 24 IFMP” will be finalized in the 2017/18 fiscal year.	Posted online by end of 2018/19.	Will complete and post online in 2019-20. Deliverable previously noted for completion in 2018/19. IFMP will be updated and posted in 2019/20. Deliverable previously noted for completion in 2018/19.		Delayed
			Details: The IFMP was updated in fiscal 2017/18 but was still awaiting approvals at fiscal year end. It was anticipated that the IFMP would be approved and posted in fiscal 2018/19 (N. Schjott, personal communication, June 29, 2018). The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the							

⁵⁴² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁴³ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁴⁴ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁴⁵ The 2019/20 work plan includes further detail on stock areas included here in brackets, but it is assumed it was meant to read CFA and not LFA and include CFA 23 as per the LRP deliverable stock definition in the 2019/20 work plan.

⁵⁴⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada’s Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁴⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁴⁸ DFO (2020). Fisheries and Oceans Canada’s Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development’s (CESD) October 2016 Report 2 – Sustaining Canada’s Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			description of deliverables (2018/19). ⁵⁴⁹ The delay was also noted in the 2019/20 work plan, where it was indicated that the IFMP will be completed and posted online in 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is out of date and is being updated, with a completion date of March 2020. ⁵⁵⁰ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁵¹ DFO indicates the scallop IFMP has been drafted and was scheduled to be sent to industry in March 2020, but this was postponed due to the COVID-19 pandemic as industry was concerned with its impact on the 2020 fishing season (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020). This IFMP will be completed in 2020/21 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).							
28	Maritimes	Lobster – inshore LFAs 27–33; Healthy Lobster – inshore LFAs 34; Healthy Lobster – inshore LFAs 35–38; Healthy		✓2018/19	✓2017/18 ✓2019/20	Inshore lobster IFMP will be made accessible online, after completion, by March 31, 2018.	Update on progress in developing the precautionary approach Framework; update to reference points. Some minor updates and corrections. [LFA 27–33] ⁵⁵²	LFA 27–38 IFMP will be updated and posted in 2019–20. Will include new LFA 27–33 reference points (developed in 2018/19).		Completed
			Details: The updated inshore lobster IFMP was not posted online in fiscal 2017/18 or 2018/19. Last year Oceana Canada noted the Integrated Fishery Management Plan Lobster Fishing Areas 27 – 38 Scotia-Fundy Sector – Maritimes Region – 2011 was now available on the DFO website, with a last-modified date on the website of August 7, 2018. ⁵⁵³ DFO put the 2011 IFMP online for public access while the updates were taking place (N. Schjott, personal communication, June 25, 2019). The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁵⁴ This was reiterated in the 2019/20 work plan, where new annual deliverables indicated that new reference points were developed for LFAs 27–33 in 2018/19 and that work continued to update and post the IFMP online in 2019/20. The Lobster Fishing Areas 27 – 38. Integrated Fisheries Management Plan is now on the DFO website, with a date last modified of March 31, 2020 and including information up to and including 2020. ⁵⁵⁵ The 2019/20 work plan results also indicate this deliverable was completed; a tangible deliverable is complete and available as a result. ⁵⁵⁶							
29	Quebec	Greenland halibut – 4RST; ⁵⁵⁷ Cautious		✓2018/19	✓2017/18 ✓2018/19	IFMP will be made accessible online by March 31, 2018.	Updated and posted by end of 2018/19.	Will complete and post IFMP in 2019/20. Deliverable previously noted for completion in 2018/19.		Delayed

⁵⁴⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁵⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁵¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁵² The 2018/19 deliverables description for LFAs 27–33 is a description of updates to the section of the IFMP pertaining to this stock that may be required if it is determined the reference points need to be changed (N. Schjott, personal communication, June 29, 2018).

⁵⁵³ DFO (2018). Inshore Lobster. American Lobster (*Homarus americanus*) Integrated Fishery Management Plan. Lobster Fishing Areas 27 – 38. Scotia-Fundy Sector – Maritimes Region – 2011. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/inshore-lobster-2011-eng.html>

⁵⁵⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁵⁵ DFO (2020). Integrated Fisheries Management Plan. Lobster Fishing Areas 27 – 38. Integrated Fisheries Management Plan. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/2019/inshore-lobster-eng.html>

⁵⁵⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁵⁷ This stock is listed in work plan 3 of the 2017/18 and 2018/19 fiscal year work plans twice: once with the Gulf Region under the multi-stock groundfish IFMP and once for the Quebec Region as a single-stock IFMP. Quebec Region leads the science on this stock, while management falls under both regions. Last year Oceana Canada only included one record for this stock, under the Gulf Region groundfish IFMP. But, it has since been clarified that this stock is likely to be included in two IFMPs: the Gulf Region Groundfish IFMP and a single-stock IFMP developed by the Quebec Region. The latter IFMP will be specific to harvesters based in Quebec and will likely contain more detailed information on the stock than the multispecies groundfish IFMP for the Gulf Region.

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
					✓2019/20		Updated and posted by end of 2018/19.			
<p>Details: This stock is likely to be included in two IFMPs: the Gulf Region Groundfish IFMP and a single-stock IFMP developed by the Quebec Region. The latter IFMP will be specific to harvesters based in Quebec and will likely contain more detailed information on the stock than the multispecies/multi-stock groundfish IFMP for the Gulf Region. The IFMP was not posted online in fiscal 2017/18. The work plan results for 2018/19 indicates the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19).⁵⁵⁸ This delay was reiterated in the 2019/20 work plan, where it was indicated work continued to complete and post the IFMP online. Last year it was indicated that the IFMP was drafted and awaiting approvals (N. Schjott, personal communication, June 25, 2019). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is up to date but is being updated and should be posted on the DFO website in the coming weeks.⁵⁵⁹ The IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁵⁶⁰ DFO indicates the IFMP is undergoing final reviews and that it will be completed and posted within the next few months (Fisheries and Aquaculture Management, Quebec Region, personal communication, June 23, 2020).</p>										
30	Central and Arctic	Greenland halibut – NAFO Division 0A/0B; Healthy		✓2018/19	✓2018/19 ✓2019/20		Updated and posted by end of 2018/19. Updated and posted by end of 2018/19.	Will post IFMP in 2019/20.		Completed
<p>Details: The updated IFMP for Greenland halibut – NAFO Division 0A/0B was not posted online in fiscal 2018/19. At that point, the IFMP for Greenland Halibut (<i>Reinhardtius hippoglossoides</i>) – Northwest Atlantic Fisheries Organization Subarea 0 – effective 2014 was available on the DFO website, but it had an old last-modified date on the website (July 25, 2014) and only contained information up to and including 2014, indicating it was still the old IFMP.⁵⁶¹ The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by deadline date as indicated in the description of deliverables (2018/19).⁵⁶² This was reiterated in the 2019/20 work plan, where it was indicated work would continue to post the IFMP online. Last year it was indicated that DFO is working towards completing and posting as indicated in the work plan (N. Schjott, personal communication, June 25, 2019). The Greenland Halibut – Northwest Atlantic Fisheries Organization Subarea 0 IFMP is now available on the DFO website with a last-modified date of January 30, 2020 and including information up to and including 2020.⁵⁶³ The 2019/20 work plan results also indicate this deliverable was completed; a tangible deliverable is complete and available as a result.⁵⁶⁴</p>										
31	Gulf	Lobster – southern Gulf LFAs 23, 24, 25, 26A, 26B; Healthy		✓2018/19 ✓2020/21			Gulf of St. Lawrence Lobster, Southern Gulf - LFA 23, 24, 25, 26A and 26B IFMP will be updated by end of 2018/19.		Will begin IFMP update in 2020-21.	Delayed
<p>Details: The updated IFMP for Gulf of St. Lawrence Lobster, Southern Gulf – LFA 23, 24, 25, 26A and 26B was not posted online in fiscal 2018/19. The IFMP currently available on the DFO website has an old last-modified date on the website (January 20, 2015) and only contains information up to and including 2014, indicating it is still the old IFMP.⁵⁶⁵ The work plan results for</p>										

⁵⁵⁸ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁵⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁶⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁶¹ DFO (2014). Greenland Halibut (*Reinhardtius hippoglossoides*) – Northwest Atlantic Fisheries Organization Subarea 0 – Effective 2014. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/halibut-fletan-eng.html>

⁵⁶² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁶³ DFO (2020). Integrated Fisheries Management Plan. Greenland halibut – Northwest Atlantic Fisheries Organization Subarea 0. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/2019/halibut-fletan-eng.htm>

⁵⁶⁴ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁶⁵ DFO (2014). Integrated Fisheries Management Plan. Lobster in the Southern Gulf of St. Lawrence. Lobster Fishing Areas 23, 24, 25, 26A, 26B. <http://www.glf.dfo-mpo.gc.ca/Gulf/FAM/IFMP/2014-Lobster-Gulf-Region>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁶⁶ Even though this stock was not included in the 2019/20 work plan, last year it was anticipated the updated IFMP would be posted online in 2019/20 (N. Schjott, personal communication, June 25, 2019). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is out of date and is being updated, with a completion date of March 2020. ⁵⁶⁷ The newly updated IFMP is not yet available on the DFO website. The 2020/21 fiscal year work plan indicates work will begin to update the IFMP this fiscal year. DFO indicates capacity issues prevented making much progress on the IFMP, as noted in previous versions of the Sustainable Fisheries Framework work plan and the survey itself (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020). The intent is to update the IFMP to add new information since it was last published and have a draft update by the end of March 2021 (Fisheries and Aquaculture Management, Gulf Region, personal communication, June 23, 2020).							
32	Maritimes	Offshore clam; Healthy		✓2018/19 ✓2019/20 ✓2020/21			Update to be completed by end of 2018/19.	Will update IFMP in 2019/20. Deliverable previously noted for completion in 2018/19.	Will obtain approvals on updated IFMP, if not done by end of FY 19-20. Will post updated IFMP online in 2020-21.	Delayed
			Details: The IFMP for Offshore Clams – Maritimes and Newfoundland Regions – June 2014 is available on the DFO website. ⁵⁶⁸ But it has an old last-modified date on the website (November 15, 2017) and only contains information up to and including 2014, indicating it is still the old IFMP. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁶⁹ This delay was also noted in the 2019/20 work plan. The IFMP was stalled due to decisions regarding a new entrant in the fishery; last year it was indicated work on the IFMP has started again for 2019/20 (N. Schjott, personal communication, June 25, 2019). As indicated in the 2019/20 work plan, it was anticipated the IFMP update would be completed in 2019/20. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is up to date, citing the 2014 version, but also indicates the IFMP is being updated, with a completion date of March 2020. ⁵⁷⁰ The newly updated IFMP is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁷¹ The 2020/21 fiscal year work plan indicates the IFMP will be approved and posted online this fiscal year.							
33	Newfoundland and Labrador	Atlantic salmon – recreational in Newfoundland and Labrador Region; Uncertain†	✓2018/19		✓2018/19		Recreational Salmon IFMP will be completed and posted by end of 2018/19. Completed and posted by end of 2018/19.			Delayed
			Details: The new IFMP for Atlantic Salmon – Recreational in NL Region was not posted online in fiscal 2018/19. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁷² Even though this stock was not included in the 2019/20 work plan, during this evaluation last year (2019) it was anticipated the IFMP would be posted online in 2019/20 as departmental officials indicated the IFMP was complete and awaiting approvals (N. Schjott, personal communication, June 25, 2019). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates the current IFMP is out of date and an update has been developed and will							

⁵⁶⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁶⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁶⁸ DFO (2015). Integrated Fisheries Management Plan. Offshore Clams – Maritimes and Newfoundland Regions – June 2014. <http://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/clams-palourdes/clams-palourdes-2014-eng.html>

⁵⁶⁹ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁷⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁷¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁷² DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

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			be completed and posted in the 2019/20 fiscal year. ⁵⁷³ The IFMP is not yet available on the DFO website. DFO confirms the IFMP is finalized and currently in approval stages (Fisheries and Aquaculture Management, Newfoundland and Labrador Region, personal communication, June 23, 2020).							
34	Newfoundland and Labrador	Sea urchin – Newfoundland and Labrador Region; Uncertain	✓2018/19		✓2018/19		Completed and posted by end of 2018/19. Completed and posted by end of 2018/19.			Completed
			Details: The new IFMP for Sea Urchin – NL Region was not posted online in fiscal 2018/19. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁷⁴ Even though this stock was not included in the 2019/20 work plan, during this evaluation last year (2019) it was anticipated the IFMP would be posted online in 2019/20 given departmental officials indicated the IFMP was complete and awaiting approvals (N. Schjott, personal communication, June 25, 2019). The IFMP for Sea Urchin (<i>Stronglyocentrotus droebachiensis</i>) – Newfoundland and Labrador Region is now available on the DFO website, with a last-modified date of April 14, 2020, and it includes information up to and including 2018. ⁵⁷⁵							
35	Quebec	Atlantic herring – 4S; Uncertain		✓2018/19	✓2018/19		Updated and posted by end of 2018/19. Updated and posted by end of 2018/19.			Completed
			Details: The updated Atlantic herring – 4S was not posted online in fiscal 2018/19. The work plan results for 2018/19 indicated the deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2018/19). ⁵⁷⁶ Even though this stock was not included in the 2019/20 work plan, during this evaluation last year (2019) it was anticipated the IFMP would be posted online in 2019/20 given departmental officials indicated the IFMP is complete and awaiting approvals (N. Schjott, personal communication, June 25, 2019). The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the current IFMP is up to date, that an update is not underway and that the current version is available online, although the respondent does not provide a link and indicates it was planned to be posted online in 2019. ⁵⁷⁷ DFO confirmed the IFMP was in the final approval stages and that it would be completed and posted within the next few weeks (Fisheries and Aquaculture Management, Quebec Region, personal communication, June 23, 2020). The Atlantic Herring Division 4S (Herring Fishing Area 15) IFMP is now available on the DFO website with a last-modified date of July 17, 2020 ⁵⁷⁸ and contains information up to and including 2018. ⁵⁷⁹							
36	Newfoundland and Labrador	Whelk – Newfoundland and Labrador Region; Uncertain	✓2019/20		✓2019/20			Will develop IFMP in 2019/20. IFMP will be developed and posted in 2019/20.		Delayed
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SFF) indicated that there is no IFMP, that a new version is being developed and that it was anticipated to be completed before the end of the fiscal year. ⁵⁸⁰ The respondent is likely referring to fiscal 2019/20, given that although the most recent SSF reports 2018 results, the survey is sent out and responses compiled throughout 2019 for the previous fishing season. The IFMP for whelk in the Newfoundland and Labrador Region is not yet available on the DFO website. The 2019/20 work							

⁵⁷³ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁷⁴ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁷⁵ DFO (2020). Integrated Fisheries Management Plan. Sea urchin (*Stronglyocentrotus droebachiensis*) - Newfoundland and Labrador Region. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/sea-urchin-oursin/2019/index-eng.html>

⁵⁷⁶ DFO (2019). Work Plans for Fiscal 2018-19. Fisheries and Oceans Canada's Work Plans Results for Fiscal 2018-19 in Response to Recommendations 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/2018-2019/work-plan-travail-2018-19-eng.html>

⁵⁷⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁷⁸ Although this IFMP was posted online after the annual July 1st information inclusion deadline, it was still evaluated as completed here as the IFMP was found online during final edits to the report in late July.

⁵⁷⁹ DFO (2020). Atlantic Herring Division 4S (Herring Fishing Area 15) Integrated Fisheries Management Plan. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/2019/area-15-zone-eng.html>

⁵⁸⁰ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁸¹ DFO indicates the IFMP is finalized and currently in approval stages (Fisheries and Aquaculture Management, Newfoundland and Labrador Region, personal communication, June 23, 2020).							
37	Newfoundland and Labrador	Toad and rock crab – Newfoundland and Labrador Region; Uncertain	✓2019/20		✓2019/20			Will develop IFMP in 2019/20. IFMP will be developed and posted in 2019/20.		Delayed
			Details: The stock is not included in the most recent (2018) results of the DFO Sustainability Survey for Fisheries, so further information is not available from that survey. ⁵⁸² The IFMP for toad and rock crab in the Newfoundland and Labrador Region is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁸³ DFO indicates the IFMP is finalized and currently in approval stages (Fisheries and Aquaculture Management, Newfoundland and Labrador Region, personal communication, June 23, 2020).							
38	Maritimes	Gaspereau and blueback herring – Maritimes Region; Uncertain †	✓2019/20 ✓2020/21					Will complete IFMP in 2019/20.	Carry forward from 2019-20. Will complete IFMP in 2020-21.	Delayed
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that there is no IFMP, that a new version is being developed and that it was anticipated to be completed in spring 2020. ⁵⁸⁴ The IFMP for gaspereau and blueback herring in the Maritimes Region is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁸⁵ The 2020/21 fiscal year work plan indicates IFMP development will be completed this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description.							
39	Central and Arctic Region	Bowhead whale – Eastern Canada – West Greenland; Healthy †	✓2019/20 ✓2020/21					Will complete IFMP in 2019/20.	Carry forward from 2019-20. Will complete IFMP in 2020-21.	Delayed
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SFF) indicates that there is no IFMP, that a new version is being developed and that it was anticipated to be completed in June 2020. ⁵⁸⁶ The SFF respondent indicated that a completed draft IFMP was submitted with a Request for Decision to the Nunavut Wildlife Management Board (NWMB) and the Nunavut Marine Region Wildlife Board (NMRWB). The timeline to receipt of a final decision from the NWMB and NMRWB is subject to completion of the decision-making process set out in their respective Land Claims Agreements. The IFMP for bowhead whales in Eastern Canada – West Greenland is not yet available on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁵⁸⁷ The 2020/21 fiscal year work plan indicates IFMP completion will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description.							
40	Maritimes	Atlantic herring –		✓2019/20	✓2020/21			Will update IFMP in 2019/20.	Will post updated IFMP online in 2020-21.	Delayed

⁵⁸¹ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁸² DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁸³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁸⁴ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁸⁵ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁸⁶ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁸⁷ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
		4WX, 4Vn and 5Z; Cautious, Critical	<p>Details: The management plan provided at the IFMP link on the DFO website for this stock group is actually a rebuilding plan published in 2013 for the largest spawning component (Southwest Nova Scotia/Bay of Fundy herring).⁵⁸⁸ The most recent (2018) results of the DFO Sustainability Survey for Fisheries (SSF) indicates that there is an out-of-date IFMP (2003–2006; not available online) and that a new version is being developed with anticipated completion in March 2020.⁵⁸⁹ The terms of reference for a January 2020 CSAS indicate DFO has decided to proceed with a management strategy evaluation (MSE) process as the framework for the major spawning component of the stock (Southwest Nova Scotia/Bay of Fundy herring).⁵⁹⁰ An additional CSAS meeting was held virtually in May 2020 to review the structure and fitting of the models that will be used as the basis for all of the operating models in the MSE.⁵⁹¹ This meeting was the third of four CSAS processes being held to develop this MSE; the fourth meeting, yet to be scheduled, will involve the review of the entire MSE process.⁵⁹² It is anticipated that the IFMP update will occur for the entire stock group once the MSE is completed for the Southwest Nova Scotia/Bay of Fundy spawning component, and that work is ongoing. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁵⁹³ The 2020/21 fiscal year work plan indicates an updated IFMP will be posted online this fiscal year. DFO indicates the IFMP is completed and will be posted as indicated in the 2020/21 work plan deliverables (Fisheries and Aquaculture Management, Maritimes Region, personal communication, June 23, 2020). It may be updated, as needed, with output from the MSE (Fisheries and Aquaculture Management, Maritimes Region, personal communication, June 23, 2020).</p>							
41	Maritimes	Lobster – offshore; Healthy		✓2019/2 0	✓2020/2 1			Will update IFMP in 2019/20. Update to IFMP, including addition of new reference points and HCRs (developed in 2017 and 2018).	Will post updated IFMP online in 2020-21.	Completed
			<p>Details: The IFMP for Offshore lobster and Jonah crab – Maritimes Region is now available on the DFO website, with a last-modified date of March 3, 2020, and it includes information up to and including 2020.⁵⁹⁴ This replaces the previously posted 2016 IFMP. The new IFMP includes newly defined reference points and what is described as a harvest control rule (HCR) for lobster, although the latter is more a description of a constant quota approach and agreed-upon management <i>considerations</i> should the stock status change from healthy, and less the <i>prescriptive rules</i> HCRs development often implies for setting quotas. The 2020/21 fiscal year work plan indicates the updated IFMP will be posted online in this fiscal year. However, this happened in late fiscal 2019/20, as noted above. The 2019/20 work plan results indicate this deliverable was completed; a tangible deliverable is complete and available as a result.⁵⁹⁵ DFO confirms that the recently posted IFMP is the newest and the one referred to in the 2020/21 fiscal year work plan (Fisheries and Aquaculture Management, Maritimes Region, personal communication, June 23, 2020). The 2020/21 activity was ahead of schedule and completed in the 2019/20 fiscal; a new update will not take place in 2020/21 (Fisheries and Aquaculture Management, Maritimes Region, personal communication, June 23, 2020).</p>							
42	National Capital Region	Seals – Atlantic; Healthy [†]		✓2019/2 0	✓2019/2 0			Will update IFMP in 2019/20. Will update and post IFMP in 2019/20.		Delayed

⁵⁸⁸ DFO (2013). Canadian Atlantic Herring (*Clupea harengus*) – SWNS Rebuilding Plan – Atlantic Canada – 2013. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-hareng-2013-eng.html>

⁵⁸⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁹⁰ DFO (2020). Terms of Reference. Southwest Nova Scotia/Bay of Fundy Herring Framework: Part 2 – Management Strategy Evaluation Conditioning Operating Model Review. Regional Peer Review – Maritimes Region. January 21–22, 2019 [2020], Dartmouth, NS. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/01_21-22-eng.html

⁵⁹¹ DFO (2020). Terms of Reference. Continuation of 4VWX Herring Framework Part II: Operating Model Development. Regional Peer Review – Maritimes Region. May 26–27, 2020, Virtual meeting. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/05_26-27c-eng.html

⁵⁹² DFO (2020). Terms of Reference. Continuation of 4VWX Herring Framework Part II: Operating Model Development. Regional Peer Review – Maritimes Region. May 26–27, 2020, Virtual meeting. http://www.dfo-mpo.gc.ca/csas-sccs/Schedule-Horraire/2020/05_26-27c-eng.html

⁵⁹³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁹⁴ DFO (2020). Integrated Fisheries Management Plan. Offshore Lobster and Jonah Crab – Maritimes Region. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/lobster-crab-homard/2019/index-eng.html>

⁵⁹⁵ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			<p>Details: The 2011–2015 Integrated Fisheries Management Plan for Atlantic Seals is available online, but with an old last-modified date (March 2011),⁵⁹⁶ indicating it is not the updated IFMP. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the current IFMP is out of date for harp and grey seals, that a new version is being developed and that it was anticipated to be completed in March 2020.⁵⁹⁷ The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁵⁹⁸ DFO indicates updating of this IFMP has been delayed due to resource availability (Fisheries and Aquaculture Management, National Capital Region, personal communication, June 23, 2020).</p>							
43	National Capital Region	Mackerel – (Atlantic) NAFO 3 and 4; Critical		✓ 2019/2 0 ✓ 2020/2 1				Will update IFMP in 2019/20. Deliverable previously noted for completion in 2018/19. ⁵⁹⁹	Carry forward from 2019-20. Will post IFMP update online in 2020-21.	Delayed
			<p>Details: The Atlantic Mackerel – Effective 2007 IFMP is available online, but with an old last-modified date (October 2011),⁶⁰⁰ indicating it is not the updated IFMP. The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the current IFMP is out of date, that a new version is being developed and that it was anticipated to be completed in fiscal 2019/20.⁶⁰¹ DFO has also committed to developing a rebuilding plan for this stock. A rebuilding working group made up of scientists, First Nations representatives, fishers, fisheries managers, environmental groups and provincial governments was formed in December 2017 to develop the rebuilding plan, and it was anticipated that the plan would be available in March 2020.⁶⁰² That work has been evaluated here as delayed (see Table 5). The 2019/20 work plan results indicate the IFMP deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20).⁶⁰³ The 2020/21 fiscal year work plan indicates IFMP updating and posting will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description. DFO indicates the IFMP is in development and will be completed this summer/fall (Fisheries and Aquaculture Management, National Capital Region, personal communication, June 23, 2020).</p>							
44	Central and Arctic Region	Arctic char – Cambridge Bay; Healthy [†]		✓ 2019/2 0 ✓ 2020/2 1	✓ 2019/2 0 ✓ 2020/2 1			Will update existing (2014) IFMP in 2019/20. Will update and post IFMP in 2019/20.	Carry forward from 2019-20. Will complete IFMP update in 2020-21. Carry forward from 2019-20. Will post completed IFMP online in 2020-21.	Delayed
			<p>Details: The IFMP for Cambridge Bay Arctic Char Commercial Fishery (Summary Version) – Effective 2014 is available online but with an old last-modified date (March 2015), indicating it is not the updated IFMP.⁶⁰⁴ The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that the current IFMP is up to date but that a new version is being developed under the five-year review of the IFMP, scheduled to occur in 2019/20.⁶⁰⁵ The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date</p>							

⁵⁹⁶ DFO (2011). 2011–2015 Integrated Fisheries Management Plan for Atlantic Seals. <https://www.dfo-mpo.gc.ca/fisheries-peches/seals-phoques/reports-rapports/mgtplan-planges20112015/mgtplan-planges20112015-eng.html>

⁵⁹⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁵⁹⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁵⁹⁹ Although the 2019/20 work plan has a footnote indicating this deliverable was previously noted for completion in 2018/19, this is not the case. Atlantic mackerel is listed in both 2017/18 and 2018/19 fiscal year work plans but under work plan 2: fish stock rebuilding plans. The expected date of completion for this rebuilding plan has always been the end of fiscal year 2019/20.

⁶⁰⁰ DFO (2007). Integrated Fisheries Management Plan. Atlantic Mackerel – Effective 2007. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/mackerel-atl-maquereau/mac-atl-mag-2007-eng.html>

⁶⁰¹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁶⁰² Smith, A. (2019). Strategies for Rebuilding the Atlantic Mackerel Stock. InfoOceans. <https://inter-l01-uat.dfo-mpo.gc.ca/infoceans/en/infocean/strategies-rebuilding-atlantic-mackerel-stock>

⁶⁰³ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁶⁰⁴ DFO (2015). Integrated Fisheries Management Plan. Cambridge Bay Arctic Char Commercial Fishery (Summary Version) – Effective 2014. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/arctic-char-omble-chev/arctic-char-omble-chev-eng.html>

⁶⁰⁵ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

#	Region	Stock or stock group and health status zone	New IFMP	IFMP update	IFMP online	2017/18 deliverables	2018/19 deliverables	2019/20 deliverables	2020/21 deliverables	Status
			as indicated in the description of deliverables (2019/20). ⁶⁰⁶ The 2020/21 fiscal year work plan indicates IFMP updating and posting will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description.							
45	Quebec	Whelk – zones 1–15, except 10; Uncertain	✓2020/21		✓2019/20 ✓2020/21			Will complete and post IFMP in 2019/20.	Carry forward from 2019-20. Will complete IFMP in 2020-21. Carry forward from 2019-20. Will post completed IFMP online in 2020-21.	Delayed
			Details: The stock is not included in the most recent (2018) results of the DFO Sustainability Survey for Fisheries, so further information is not available from that survey. ⁶⁰⁷ The IFMP for whelk in zones 1–15 (except 10) is not available online on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁶⁰⁸ The 2020/21 fiscal year work plan indicates IFMP completion and posting will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description.							
46	Quebec	Lobster – zone 17; Uncertain	✓2020/21		✓2019/20			Will complete and post IFMP in 2019/20.	Carry forward from 2019-20. Will complete IFMP in 2020-21. Carry forward from 2019-20. Will post completed IFMP online in 2020-21.	Delayed
			Details: The most recent (2018) results of the DFO Sustainability Survey for Fisheries indicates that there is currently no IFMP but that a new IFMP is being developed with publication scheduled for late March 2020. ⁶⁰⁹ The IFMP for Lobster in zone 17 is not available online on the DFO website. The 2019/20 work plan results indicate this deliverable was delayed; the deliverable was not completed by the deadline date as indicated in the description of deliverables (2019/20). ⁶¹⁰ The 2020/21 fiscal year work plan indicates IFMP completion and posting will happen this fiscal year and was carried forward from last fiscal, meaning activities were not carried out as described in the deliverable description.							
47	Gulf	Snow crab – CFA 12, 12E, 12F and 19 Healthy		✓2020/21					Will begin IFMP update in 2020-21.	

† denotes status assignments for marine mammals, diadromous fish and freshwater fish using the 2018 Sustainability Survey for Fisheries results.

†† denotes uncertain status assignments when stocks were not included in either the Sustainability Survey for Fisheries dataset or Oceana Canada's Fishery Audit dataset.

⁶⁰⁶ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁶⁰⁷ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁶⁰⁸ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>

⁶⁰⁹ DFO (2019). Sustainability surveys data and summaries (see 2018 results .csv dataset). <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/data-donnees-en.html>

⁶¹⁰ DFO (2020). Fisheries and Oceans Canada's Work Plans Results for 2019-20 in Response to the Recommendation 2.28, 2.63 and 2.65 in the Commissioner of the Environment and Sustainable Development's (CESD) October 2016 Report 2 – Sustaining Canada's Major Fish Stocks – Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/work-plan-travail/2019-2020/wp-results-pt-eng.html>