LIMIT REFERENCE POINTS AND WILD SALMON POLICY RAPID STATUS SUMMARY: 2024
FRASER –SPRING 1.3 CHINOOK STOCK MANAGEMENT UNIT

Context

A key recommendation from a CSAS peer review process on Pacific Salmon Limit Reference Points (LRPs) is 'CU [conservation-unit] status-based LRPs' be used to meet the Fish Stocks provisions of the *Fisheries Act* (DFO, 2022; Carrie. A. Holt et al., 2023; K. Holt et al., 2023)**, which was supported nationally** (DFO, 2023)**.** LRP's are assessed for Stock Management Units (SMUs), which can include one or more conservation units (CUs) (i.e., CUs are nested within SMUs). Using this approach, serious harm to a SMU is identified when any component CU zone drops into the Wild Salmon Policy (WSP) *Red* zone. Under this definition, the CU status-LRP is '100% of CUs with statuses above *Red* status'. The implications are that if a single CU is the *Red* status zone, the SMU is assessed as being below its LRP, which in turn triggers a DFO rebuilding plan for the SMU.

Forewords

Expert reviewers expressed concerns that the Wild Salmon Policy Rapid Status Algorithm does not account for changes in spawner distribution within CUs. Because the scanner only uses total CU spawner abundances and/or trends in abundances, it assumes that CUs with even versus uneven spawner distributions relative to the productivity of each component population are equally healthy. Declining evenness in spawner distribution within a CU may signal a productivity decline, but relatively large and productive populations can temporarily mask a decline when solely using total CU abundance to estimate status.

Indigenous Knowledge

The data used in the current assessment time series do not include spawner abundance observations prior to colonization of Indigenous land. Significant modifications to the landscape, climate, and fishing practices that impact long term trends occurred before standardized spawner-escapement surveys for this SMU were developed.

Enumeration Data

The Spring 1.3 Chinook SMU contains five CUs (Lower Fraser; Middle Fraser-Fraser Canyon; Middle Fraser; Upper Fraser; North Thompson). These five CUs comprise of a total of 60 systems, 44 of which are included as persistent sites in this assessment, and 4 are excluded from the assessment due to enhancement (See enhancement section and Figures A.1-A.5 in Appendix A for CU-specific release data). The data used in this assessment were described in detail by Dionne et al. (2023) and Weir et al. (Weir et al., 2022). The last integrated status assessment for the CUs in this SMU occurred for return year 2012 (DFO, 2016). Some of the data were also recently used in the Fraser Chinook Recovery Potential

Assessments (Dionne et al., 2023).

The primary forms of spawner enumeration surveys vary across the CUs within this SMU. There is also variation in enumeration methods throughout the time series for some CUs within this SMU. Lower Fraser data were collected by visual surveys with a peak count expansion factor applied. Visual survey coverage ranged from moderate effort (1-4 surveys) to high effort (> 5 surveys) from 1975-2023. Middle Fraser- Fraser Canyon data were collected by visual surveys with a peak live count expansion factor applied. Visual survey coverage was moderate from 1996-2023. Middle Fraser data were primarily collected by visual surveys using Area-Under-the-Curve (AUC) or applying a peak live count expansion factor. Visual survey coverage ranged from moderate to high effort from 1995-2023. Two Middle Fraser systems used a combination of high precision methods. SONAR and resistivity data were collected for Bridge River between 2014-2022. Similarly, SONAR and resistivity data were collected for Lower Chilcotin River between 2008-2023 and historical data (1975-2007) have been calibrated to the high precision counts. North Thompson data were collected by visual surveys using AUC or applying a peak count expansion factor. Visual survey coverage ranged from moderate effort to high effort from 1997-2023. Upper Fraser data were collected by visual surveys using AUC or applying a peak live count expansion factor. Visual survey coverage ranged from moderate to high effort from 1995-2023.

Key steps in the processing of this data set includes assessing data quality, which are described in detail in Pestal et al. (2023). Data quality is assessed based on the number and completeness of surveys, coverage of the spawning period, visibility and reliability records, and methodology.

The average spawner data quality is considered moderate, with occasional high quality spawner data where sonar or resistivity counters have been implemented.

Relative Abundance Benchmarks:

During the recent CSAS process for the Yukon Chinook Fish Science Response Report (June 2025), authors and reviewers advocated for using 20% of the carrying capacity (S_{max}) as the lower biological benchmark instead of S_{gen}. 20% of S_{max} is an ecologically based objective that is derived from the carrying capacity of a CU rather than a harvest-based objective, and is generally more conservative than S_{gen}, which aligns with the precautionary principle. Previous CSAS publications have also suggested using 20% S_{max} as an alternative to S_{gen} for spawner abundances, especially when there is limited stock-recruit data available (Holt et al. 2009). This modification to the lower biological benchmark was also implemented in the Fraser Spring 1.2 Chinook 2024 Rapid Status Assessment and FSRR, which was recently approved by CSAS reviewers for publication. Note that for the Spring 1.3 CUs presented in this review, new relative abundance benchmarks have not yet been calculated, but will be included in the upcoming FSAR and Research document as part of the next CSAS process for Fraser Spring 1.3 and Summer 1.3 SMUs. Therefore, the benchmarks summarized in Table 2 are based on the 2023 Rapid Status Assessment and are subject to change. Additionally, relative abundance benchmarks do not impact the status outcome for these CUs because they are either assessed using relative index data, which rely on trend metrics, or escapements are well below the absolute abundance lower benchmark of 1,500 spawners.

Table 1. Conservation Units (CUs) included in this Stock Management Unit (SMU) and lists of the streams/populations within each CU used in the Rapid Status Assessment. Streams have their NuSEDS population identifications in brackets.

CU No#	CU Name	Streams Included (Population ID)	Enhanced Streams Excluded (Population ID)	Timeseries
CK-04	Lower Fraser SP 1.3	Birkenhead River (46101)		2008-2024
CK-08	Middle Fraser-Fraser Canyon SP 1.3	Nahatlatch River (47165)		1996-2024
CK-10	Middle Fraser SP 1.3	Ahbau Creek (47287) Baezaeko River (44752) Cariboo River-Upper (46892) Chilako River (46011) Chilcotin River-Lower (46842) Endako River(45510) Horsefly River(46901) Lightning Creek(47297) Mckinley Creek(45051) Nazko River(44762) Shovel Creek(45520) Swift River(2483) West Road (Blackwater) River (45991) Yalakom River (47234)	Chilcotin River-Upper (46841) Bridge River (47229)	1995-2024
CK-12	Upper Fraser SP 1.3	Antler Creek (47457) Bad River (47397) Bowron River (47427)	Dome Creek (47487) Willow River (47327)	1995-2024

		Captain Creek (47387) Fontoniko Creek (47407) Forgetmenot Creek (44691) Fraser River-Above Tete Jaune (44549) Goat River (47538) Haggen Creek (47437) Holliday Creek (1207) Holmes River (46931) Horsey Creek (46951) Ice Creek (3075) Indianpoint Creek (47447) Mckale River (47548) Morkill River (47528) Nevin Creek (46941) Salmon River (47317) Seebach Creek (47357) Slim Creek (47477) Small Creek (45325) Swift Creek (46961) Torpy River (47497) Twin Creeks (Combined) (44497) Walker Creek (47507) Wansa Creek (47337)		

CK-18	North Thompson SP 1.3	Blue River (46801) Finn Creek (46790)		1997-2024

Table 2. Relative abundance-based benchmarks by Conservation Unit (CU). The upper benchmarks are 85% S_{MSY} and the lower benchmarks are S_{gen}. Upper Benchmarks are multiplied by 1.1 in the algorithm.

CU Name	Benchmark	p50
Lower Fraser SP 1.3	85% S_{MSY}	1,332
Lower Fraser SP 1.3	S_{gen}	337
Middle Fraser- Fraser Canyon SP 1.3	85% S_{MSY}	870
Middle Fraser- Fraser Canyon SP 1.3	S_{gen}	224
Middle Fraser SP 1.3	85% S_{MSY}	19,652
Middle Fraser SP 1.3	S_{gen}	4,692
Upper Fraser SP 1.3	85% S_{MSY}	12,457
Upper Fraser SP 1.3	S_{gen}	2,862
North Thompson SP 1.3	85% S_{MSY}	3,711
North Thompson SP 1.3	S_{gen}	898

Enhancement Data

The agreed approach to categorize enhancement is to assess by system or site based on Salmonid Enhancement Program records where at least three generations of enhancement data after 2000 are available (DFO 2016b). Sites with greater than 25% mean hatchery-origin contribution or greater than 25% of years enhanced should be ranked as high (DFO 2016b). Figures A.1-A.5 in Appendix A show hatchery releases by life-stage for enhanced systems within each CU.

WSP Rapid Status Summary

Stock Management Unit (SMU) Limit Reference Point (LRP) status and narrative based on expert consensus[1]

There are five CUs in the Spring 1.3 Chinook SMU, and they are designated as **3 Red, and 2 Amber**, placing this SMU **below the LRP** in terms of WSP rapid status (Figures 1-10 & Table 3).

Lower Fraser River SP 1.3

For the 2024 assessment, the start year for the rapid status time series was changed from 1975 to 2008 due to consistent enhancement of Birkenhead River. Sub-yearling smolts were released annually from brood years 1983-1998 (Figure A.1). Additionally, 122,500 sub-yearling smolts were released between brood years 2000-2003 (Figure A.1) The 2024 escapement estimate for Birkenhead River is still pending, therefore a 2024 status could not be generated based on the use of trend metrics. It is important to

[1] Consensus: general agreement of group as a whole, or absence of evidence-based opposition to conclusions. Determined by the "weight of evidence" (scientific data, information, and analysis) where multiple results are reported. In the event of disagreements, equally plausible conclusions can be reported. Dissenting views must be clearly described in the narrative.

note that the short-term trend metric is declining for this single system CU and the status is expected to remain *Red* once the 2024 escapement estimate has been finalized.

Middle Fraser River – Fraser Canyon SP 1.3

During the January 2025 expert review, there was strong agreement to use absolute abundance metrics for this CU and change to *Red* status with *High* confidence because estimates are well below 1,500 spawners for the entire time series and reviewers have strong confidence that the real abundances of returning spawners are less than 1,500 individuals. Therefore, the absolute abundance metric was used based on expert consensus again for 2024.

Middle Fraser River SP 1.3

The addition of 2024 data shifted the status of this CU from *Red* to *Amber* with *Low* confidence. The recent three generation trend has begun to stabilize after a period of decline between 2015-2020 (Figure 4). However, impacts of the Chilcotin landslide in 2024 may alter this recent stability in future return years. No other additional comments were provided by expert reviewers.

Upper Fraser River SP 1.3

During the January 2025 expert review, it was noted that this CU is difficult to assess on the spawning grounds due to high turbidity resulting in low water clarity for aerial and ground surveys, and counts may be inflated. There were some concerns about the absolute and relative abundance metrics not being used for this CU, even though the generational average is above the 1,500 spawner threshold in recent years. It was later concluded to leave the status as is for now because SONAR feasibility is being assessed to help improve data quality in the time series.

The addition of 2024 data shifted the status of this CU from *Red* to *Amber* with *Low* confidence. For the 2024 assessment, Dome Creek and Willow River were excluded due to enhancement. Dome Creek was not regularly surveyed by FIA Stock Assessment after 2008 and yearling smolts were consistently released from brood years 1986-2004 (Figure A.3). Willow River was also excluded due to release of 69,263 yearling smolts between brood years 2021-2022 (Figure A.3) There were some concerns regarding the enhancement categorization of tributaries under the same conservation hatchery timeline as Willow River (Slim, Torpy, Walker, Wansa and Swift Creeks). It was discussed that the life-stage of releases was the determining factor in ranking Willow high (i.e., yearling smolts tend to survive approximately at rates 10 times higher than fry or sub-yearling smolts). No changes to the assignment of *Amber* status were recommended at this time, however, further verification of SEP data and sensitivity tests with these tributaries were recommended for future analyses.

North Thompson SP 1.3

There was no change in status with the addition of 2024 data for this CU. Trend metrics have improved since 2020. During the January 2025 expert review meeting, no change in use of metrics was suggested, however, it was noted that there is variation in which system is driving the metric trends throughout the time series. Historically, Finn Creek has made up the larger proportion of abundance. Blue River uses an expanded peak count, that was originally enumerated by float surveys, but is now surveyed using a combination of float surveys and aerial surveys. There were also comments on the uncertainty associated with visual surveys in the North Thompson due to lack of water clarity.

Future work: Install and test the feasibility of mainstem sonar for enumerating spawner escapements in the Upper Fraser and North Thompson Rivers.

Table 3. Wild Salmon Policy (WSP) Rapid Statuses for 2023. For background, refer to Appendix B.

CU #	CU Name	WSP Rapid Status (2023)	WSP Rapid Status Node and Pathway
CK-04	**Lower Fraser SP 1.3**	**RED, MEDIUM**	The recent year's status (2024) is designated *Red with a medium* confidence based on the algorithm. The data could be not assessed as Absolute Abundance. The 2023 generational average is 214 spawners and is below 79% of the long term average (Node 17; Figure 2, Table 4). This *Red* status has been consistent throughout the status time series from 2022 to 2023 (Figure 1).
CK-08	**Middle Fraser - Fraser Canyon SP 1.3**	**RED, HIGH**	The recent year's status (2024) is designated *Red with a High* confidence based on the algorithm. The recent generational average is 68 spawners and is well-below the absolute abundance lower benchmark (Node 3; Figure 4, Table 5). This *Red* status has been consistent throughout the status time series from 2013 to 2024 (Figure 3).
CK-10	**Middle Fraser SP 1.3**	**RED, MEDIUM**	The recent year's status (2024) is designated *Red with a medium* confidence based on the algorithm. The data could be not assessed as absolute abundance. The recent generational average is 4,202 spawners and is below 79% of the long term average (Node 17; Figure 6, Table 6). This Red *status* has been consistent since 2017. (Figure 5).
CK-12	**Upper Fraser SP 1.3**	**AMBER, LOW**	The recent year's status (2024) is designated *Amber with a low* confidence based on the algorithm. The data could be not assessed as absolute abundance. The recent generational average is 12,881 spawners and is above 233% of the long term average (Node 65; Figure 8, Table 7). The status was *Red* between 2018-2023 (Figure 7).
CK-18	**North Thompson SP 1.3**	**AMBER, LOW**	The recent year's status (2024) is designated *Amber with a low* confidence based on the algorithm. The data could be not assessed as absolute abundance. The recent generational average is 386 spawners and is above 233% of the long term average (Node 65; Figure 10, Table 8). This *Amber* status is consistent with the Amber status from 2021-2024. (Figure 9).

CK-04 Lower Fraser SP 1.3

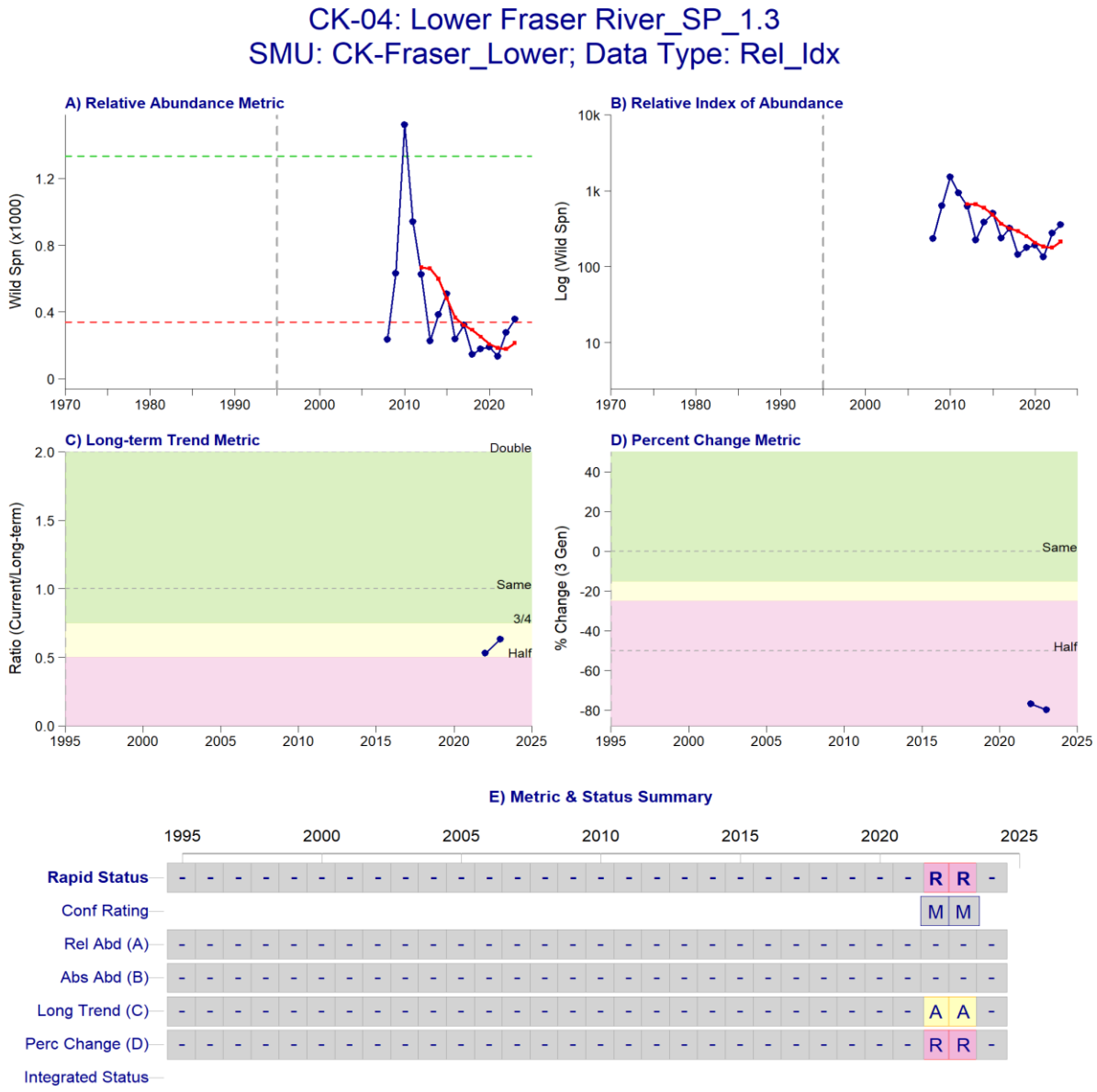

Figure 1: Metrics and Status for Lower Fraser SP 1.3 (CK-04). Panels on top show the four standard WSP metrics, calculated based on the available time series of spawner abundances. Bottom panel summarizes the status for each individual metric and shows the resulting WSP rapid status for the CU with a confidence rating. If integrated WSP status assessments have been completed for this CU, they are shown on the last row (IntStatus). Note that metric benchmarks may differ from algorithm thresholds, since thresholds approximate the status determination process from past WSP integrated status assessments (see Figure 2 and Table 4).

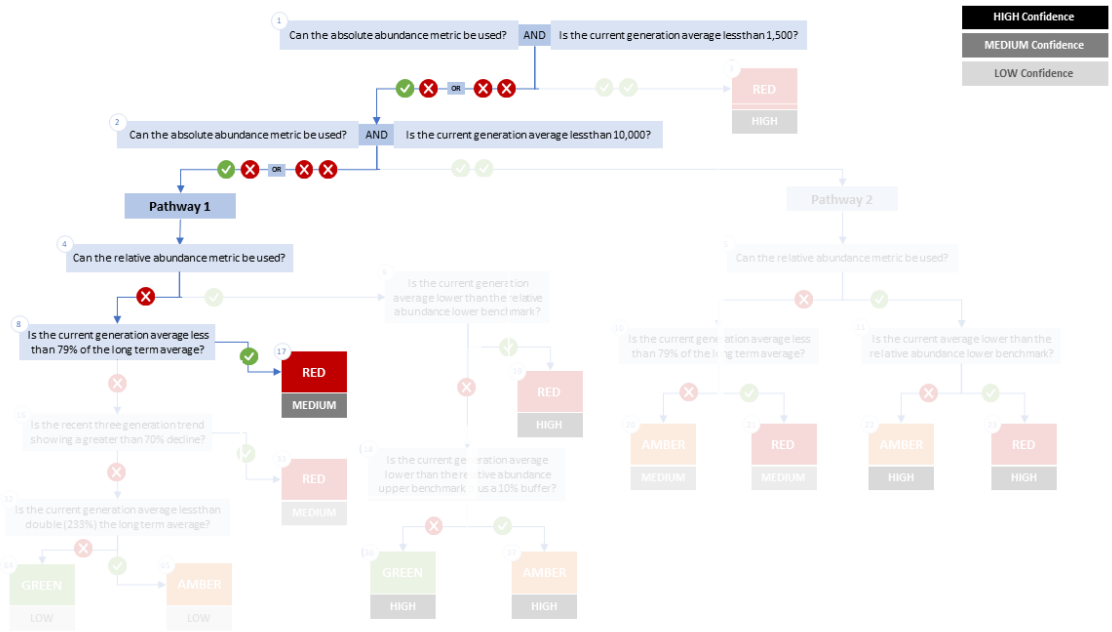

Figure 2. Algorithm pathway taken to assess status for the Lower Fraser SP 1.3 in 2024. Absolute abundance data is not available for this CU (follow to node 2 and 4). Not able to compare absolute abundance to relative abundance benchmark (follow to node 8). The long term trend can be calculated from the relative abundance index for this CU, and it is less than the 79% lower threshold used by the algorithm (follow node 17). Status for this CU is therefore designated as Red with Medium confidence at node 17 (see (DFO, 2024) for definition of each node).

Table 4: Decision tree path given data and metric values for the Lower Fraser SP 1.3 in 2024; this aligns with Figure 2 above. For each node, the algorithm decision is made by comparing the CUs current metric value to the metric threshold and answering Yes or No, running through sequential nodes and decisions until the final WSP rapid status for that CU and year is reached.

Node	Metric	Metric Threshold	CUs Current Value	Decision
1	Relative Index	<1,500	214	NO, YES
2	Relative index	< 10,000	214	NO,YES
4	Relative abundance	Available?		NO
8	Long term trend	<79% of long term average	214	YES
17	FINAL STATUS NODE			RED, MEDIUM

CK-08 Middle Fraser River – Fraser Canyon SP 1.3

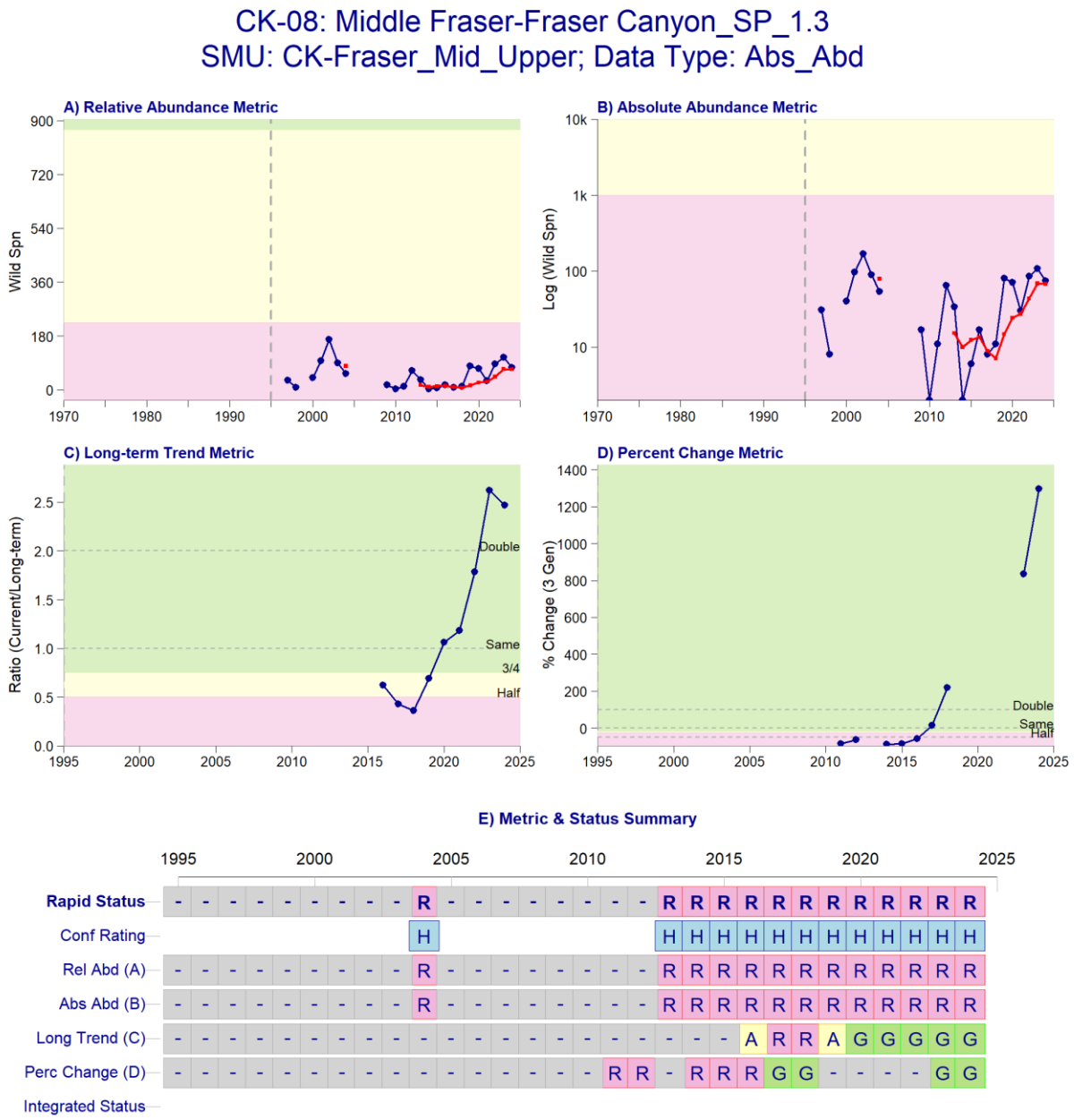

Figure 3: Metrics and Status for Middle Fraser – Fraser Canyon SP 1.3 (CK-08). Panels on top show the four standard WSP metrics, calculated based on the available time series of spawner abundances. Bottom panel summarizes the status for each individual metric and shows the resulting WSP rapid status for the CU with a confidence rating. If integrated WSP status assessments have been completed for this CU, they are shown on the last row (IntStatus). Note that metric benchmarks may differ from algorithm thresholds, since thresholds approximate the status determination process from past WSP integrated status assessments (see Figure 4 and Table 5).

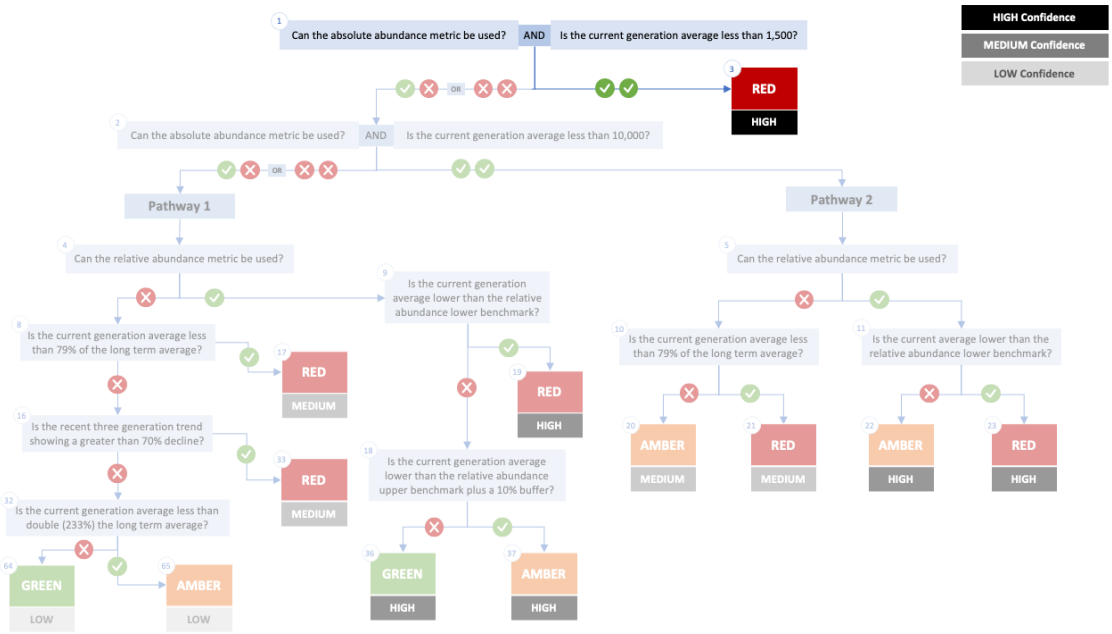

Figure 4. Algorithm pathway taken to assess status for Middle Fraser – Fraser Canyon SP 1.3 in 2024. The recent generational average falls below the *absolute abundance* lower (1,500) threshold (node 1). Status for this CU is therefore designated as *Red* with *High* confidence at Node 3.

Table 5: Decision tree path given data and metric values for Middle Fraser – Fraser Canyon SP 1.3 2024; this aligns with Figure 3 above. For each node, the algorithm decision is made by comparing the CUs current metric value to the metric threshold and answering Yes or No, running through sequential nodes and decisions until the final WSP rapid status for that CU and year is reached.

Node	Metric	Metric Threshold	CUs Current Value	Decision
1	Absolute Abundance	<1,500	68	YES, YES
3	FINAL STATUS NODE			RED, HIGH

CK-10 Middle Fraser River SP 1.3

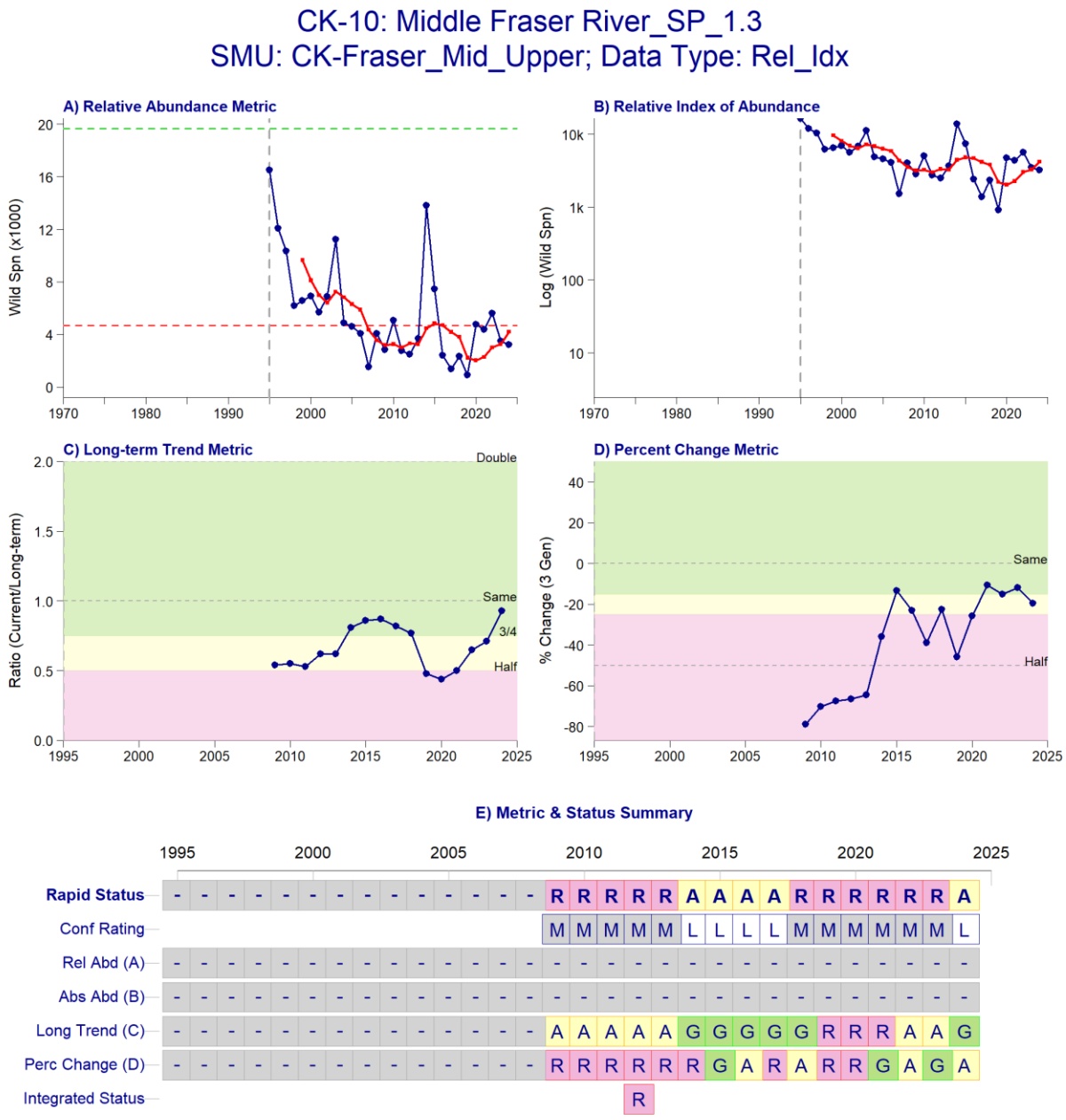

Figure 5: Metrics and Status for Middle Fraser River SP 1.3 (CK-10). Panels on top show the four standard WSP metrics, calculated based on the available time series of spawner abundances. Bottom panel summarizes the status for each individual metric and shows the resulting WSP rapid status for the CU with a confidence rating. If integrated WSP status assessments have been completed for this CU, they are shown on the last row (IntStatus). Note that metric benchmarks may differ from algorithm thresholds, since thresholds approximate the status determination process from past WSP integrated status assessments (see Figure 4 and Table 6).

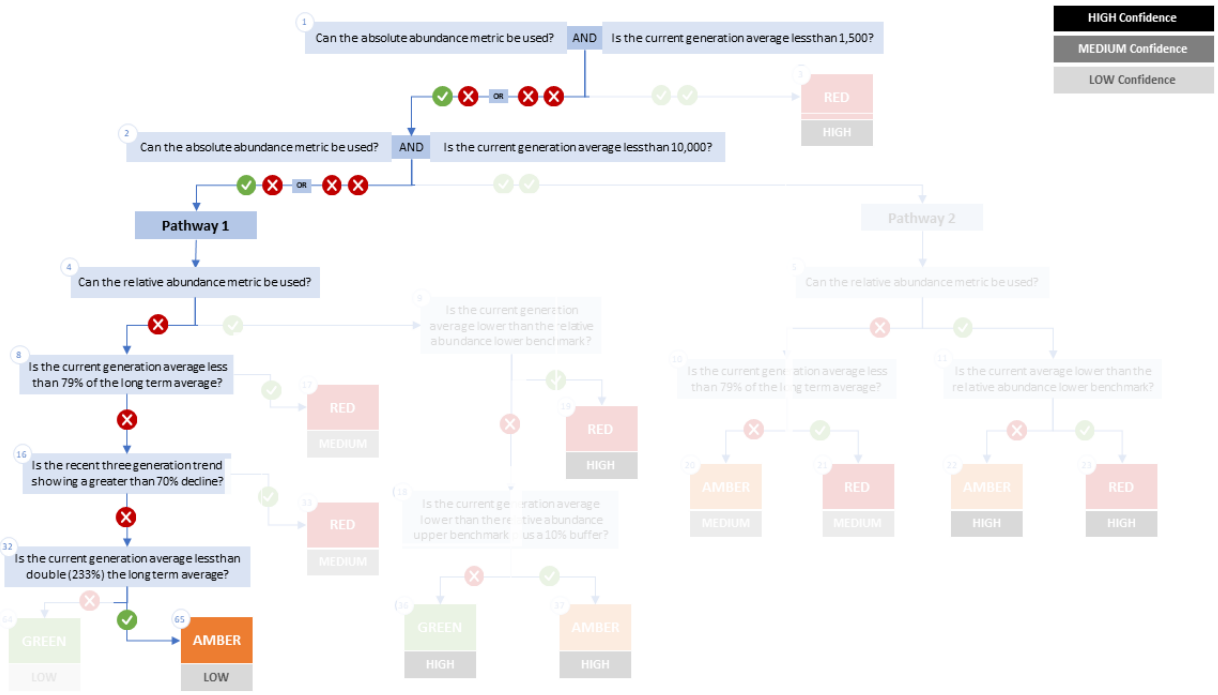

Figure 6. Algorithm pathway taken to estimate status for Middle Fraser River Spring 1.3 (CK-10) in 2024*.* Absolute abundance data is not available for this CU (follow to node 2 and 4). Not able to compare absolute abundance to relative abundance benchmark (follow to node 8). The long term trend can be calculated from the relative abundance index for this CU, and it is above the 79% lower threshold used by the algorithm (follow to node 16). The long term trend is below the upper threshold used by the algorithm (follow to node 65). Status for this CU is therefore designated as Amber with Low confidence at node 65 (see DFO 2024 for definition of each node).

Table 6: Decision tree path given data and metric values for Middle Fraser River Spring 1.3 (CK-10 in 2024; this aligns with Figure 6 above. For each node, the algorithm decision is made by comparing the CUs current metric value to the metric threshold and answering Yes or No, running through sequential nodes and decisions until the final WSP rapid status for that CU and year is reached.

Node	Metric	Metric Threshold	CUs Current Value	Decision
1	Relative Index	<1,500		NO, NO
2	Relative Index	< 10,000		NO, NO
4	Relative Abundance	Available?	No	NO
8	Long Term Trend	<79% of long term average	4,202	NO
16	Percent Change	< 70% decline	4,202	NO
32	Long Term Trend	< 233% of long term average	4,202	YES
65	FINAL STATUS NODE			AMBER,LOW

CK-12 Upper Fraser River SP 1.3

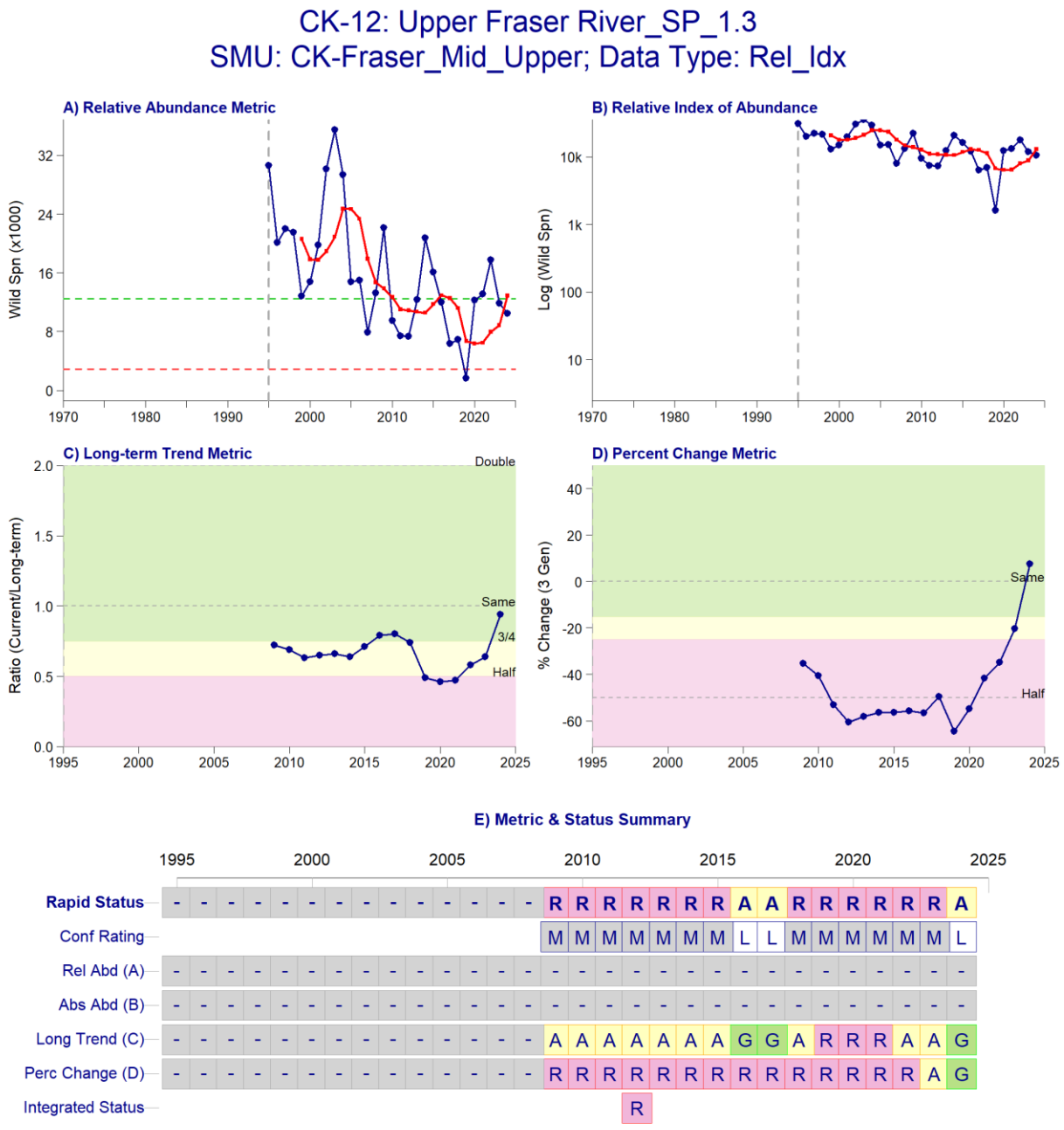

Figure 7: Metrics and Status for Upper Fraser River SP 1.3 (CK-12). Panels on top show the four standard WSP metrics, calculated based on the available time series of spawner abundances. Bottom panel summarizes the status for each individual metric and shows the resulting WSP rapid status for the CU with a confidence rating. If integrated WSP status assessments have been completed for this CU, they are shown on the last row (IntStatus). Note that metric benchmarks may differ from algorithm

thresholds, since thresholds approximate the status determination process from past WSP integrated status assessments (see Figure 7 and Table 6).

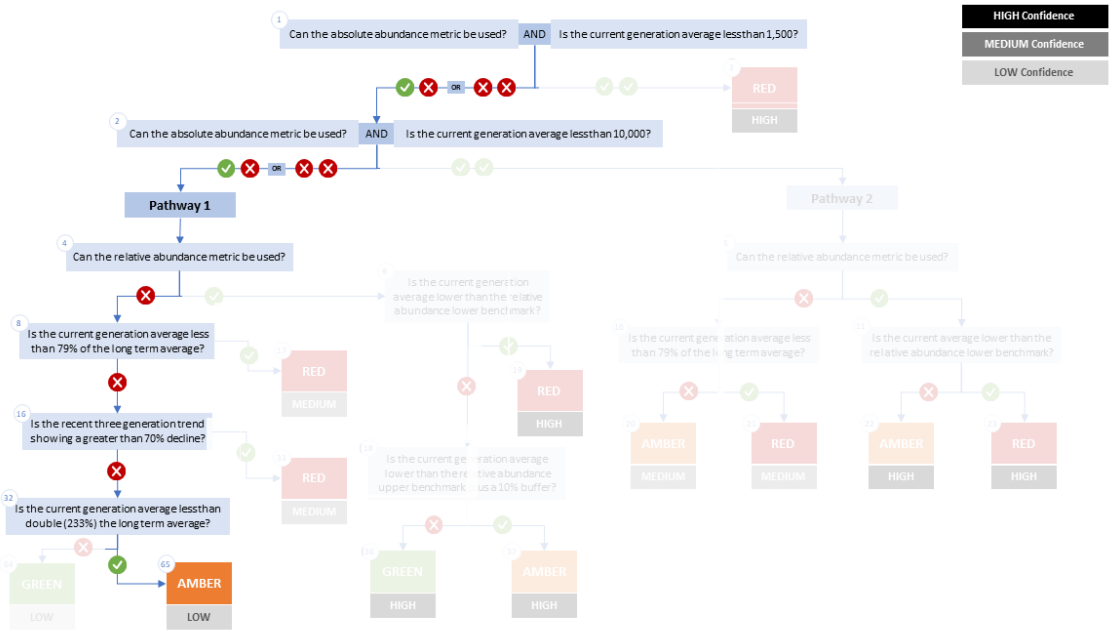

Figure 8: Metrics and Status for Upper Fraser River SP 1.3 (CK-12). Absolute abundance data is not available for this CU (follow to node 2 and 4). Not able to compare absolute abundance to relative abundance benchmark (follow to node 8). The long term trend can be calculated from the relative abundance index for this CU, and it is less than the 79% lower threshold used by the algorithm (follow to node 17). Status for this CU is therefore designated as Red with Medium confidence at node 17 (see DFO 2024 for definition of each node).

Table 7: Decision tree path given data and metric values for Upper Fraser River SP 1.3 (CK-12) in 2024; this aligns with Figure 7 above. For each node, the algorithm decision is made by comparing the CUs current metric value to the metric threshold and answering Yes or No, running through sequential nodes and decisions until the final WSP rapid status for that CU and year is reached.

Node	Metric	Metric Threshold	CUs Current Value	Decision
1	Relative Index	<1,500		NO, NO
2	Relative index	< 10,000		NO, NO
4	Relative abundance	Available?	No	NO
8	Long term trend	<79% of long term average	12,881	NO
16	Percent Change	< 70% decline	12,881	NO
32	Long term trend	< 233% of long term average	12,881	YES
65	FINAL STATUS NODE			AMBER,LOW

CK-18 North Thompson SP 1.3

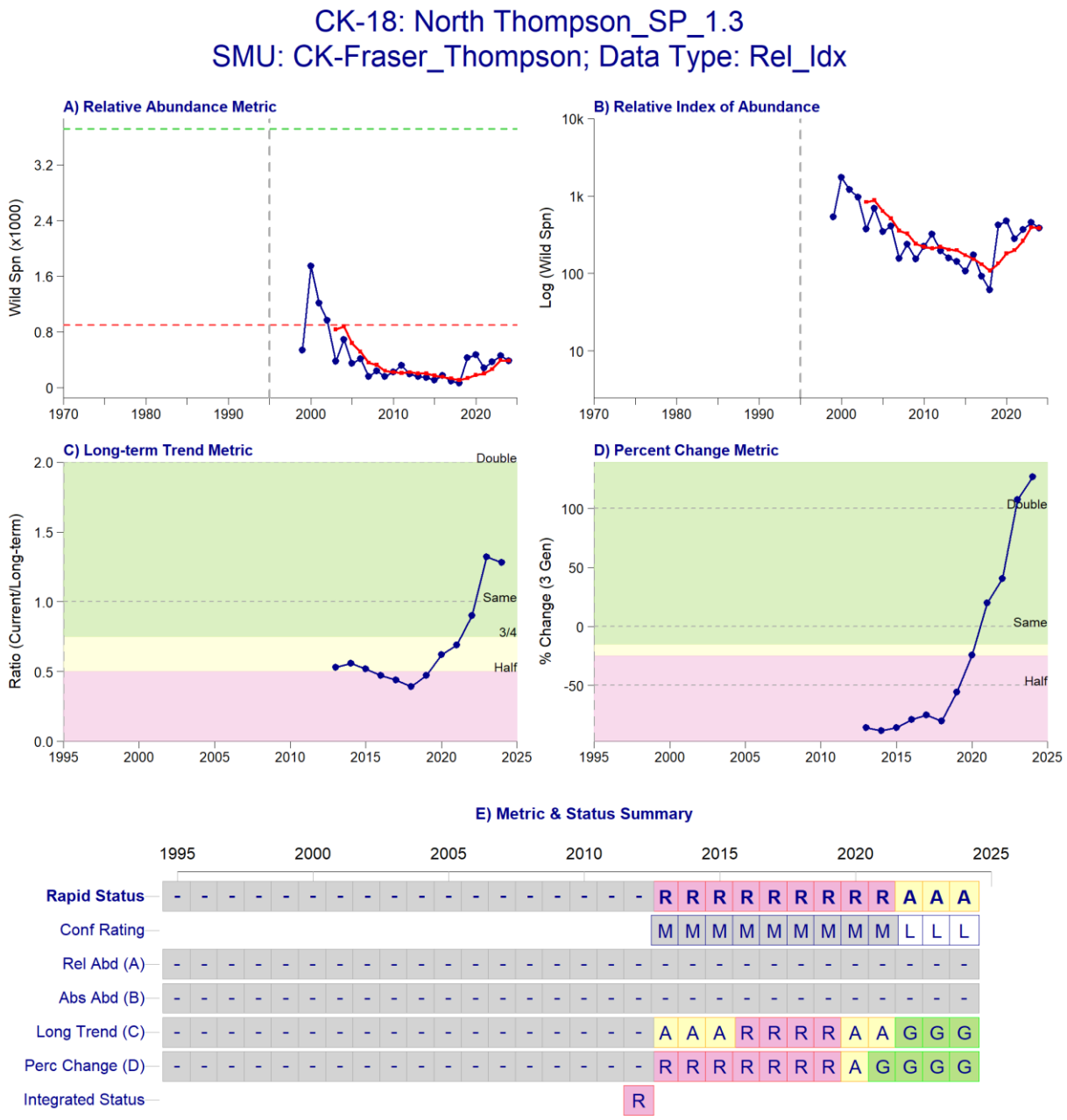

Figure 9. Metrics and Status for North Thompson SP 1.3 (CK-18). Panels on top show the four standard WSP metrics, calculated based on the available time series of spawner abundances. Bottom panel summarizes the status for each individual metric and shows the resulting WSP rapid status for the CU with a confidence rating. If integrated WSP status assessments have been completed for this CU, they are shown on the last row (IntStatus). Note that metric benchmarks may differ from algorithm

thresholds, since thresholds approximate the status determination process from past WSP integrated status assessments (see Figure 9 and Table 7).

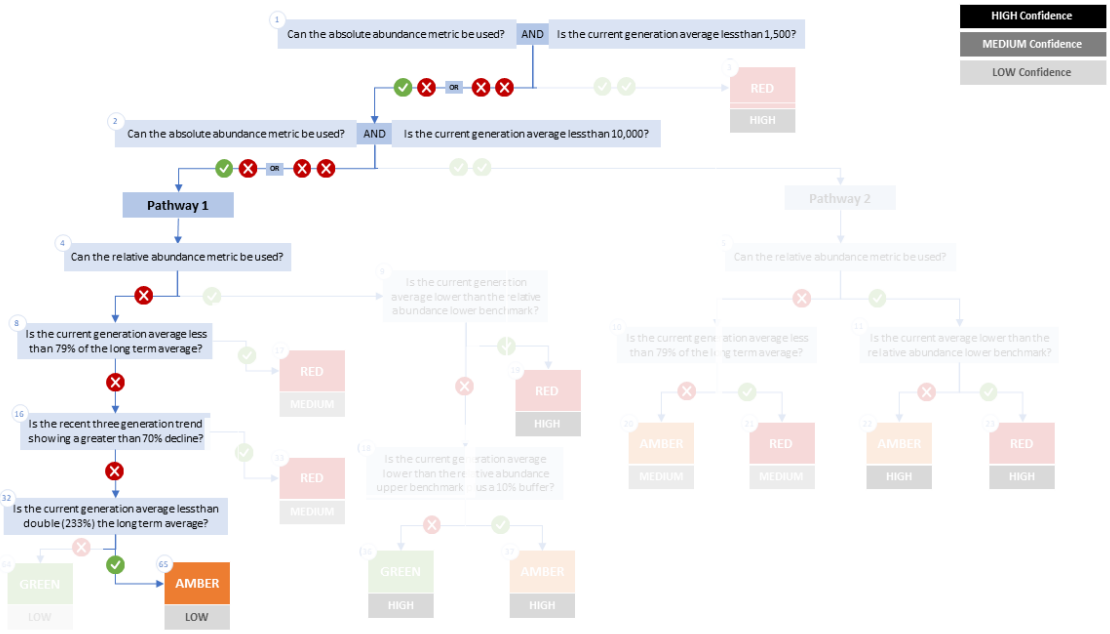

Figure 10. Algorithm pathway taken to estimate status for North Thompson Spring 1.3 Chinook (CK-18) in 2024. Absolute abundance data is not available for this CU (follow to node 2 and 4). Not able to compare absolute abundance to relative abundance benchmark (follow to node 8). The long term trend can be calculated from the relative abundance index for this CU, and it is above the 79% lower threshold used by the algorithm (follow to node 16). The long term trend is below the upper threshold used by the algorithm (follow to node 65). Status for this CU is therefore designated as Amber with Low confidence at node 65 (see DFO 2024 for definition of each node).

Table 8: Decision tree path given data and metric values for North Thompson Spring 1.3 Chinook (CK-18) in 2024; this aligns with Figure 9 above. For each node, the algorithm decision is made by comparing the CUs current metric value to the metric threshold and answering Yes or No, running through sequential nodes and decisions until the final WSP rapid status for that CU and year is reached.

Node	Metric	Metric Threshold	CUs Current Value	Decision
1	Relative Index	<1,500		NO, NO
2	Relative index	< 10,000		NO, NO
4	Relative abundance	Available	No	NO
8	Long term trend	<79% of long term average	386	NO
16	Percent Change	< 70% decline	386	NO
32	Long term trend	< 233% of long term average	386	YES
65	FINAL STATUS NODE			AMBER,LOW

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Appendix A: Summary of Hatchery Releases

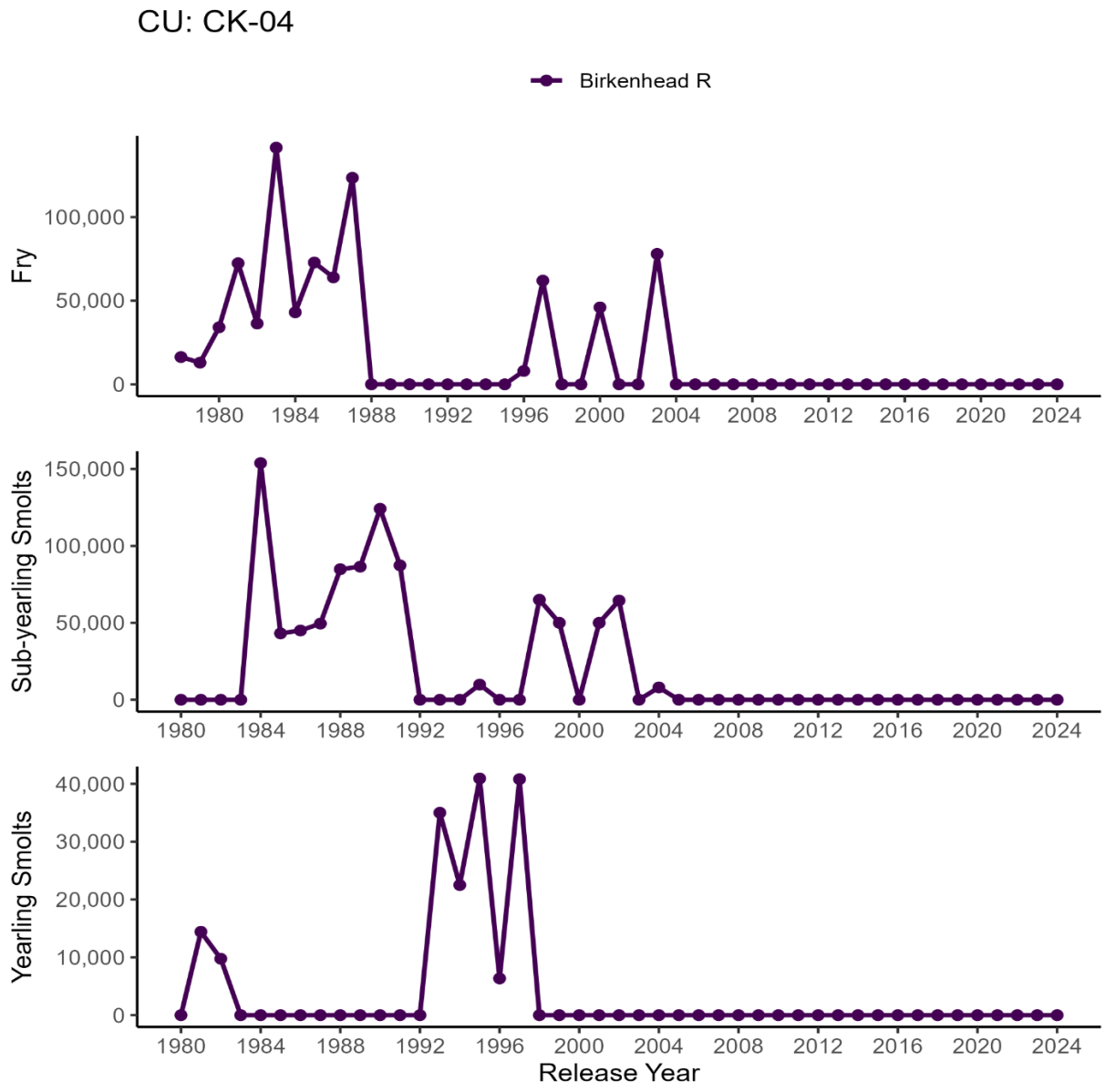

Figure A.1. Lower Fraser Spring 1.3 (CK-04) hatchery releases by life stage from 1980-2024.

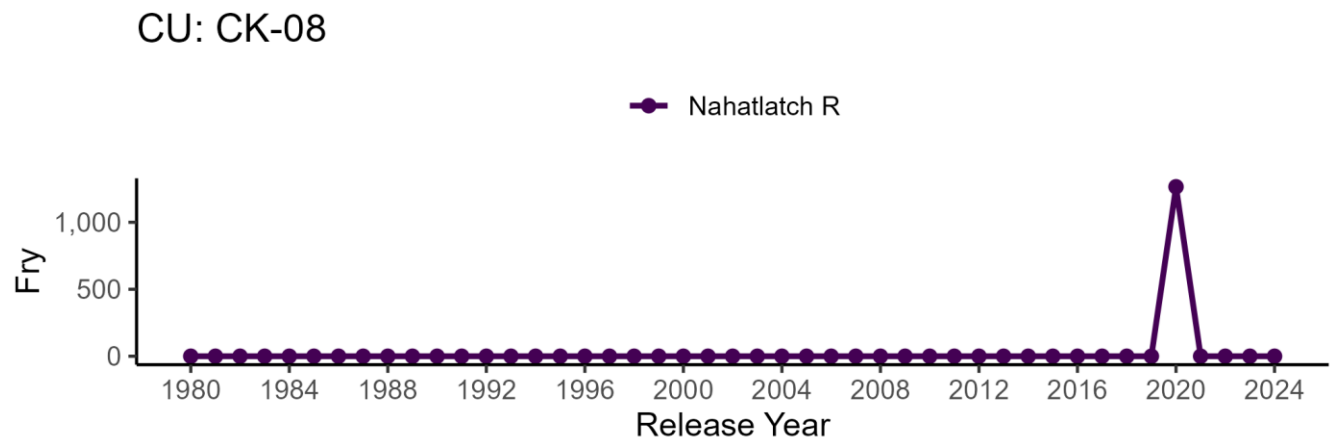

Figure A.2. Middle Fraser – Fraser Canyon Spring 1.3 (CK-08) hatchery releases by life stage from 1980-2024.

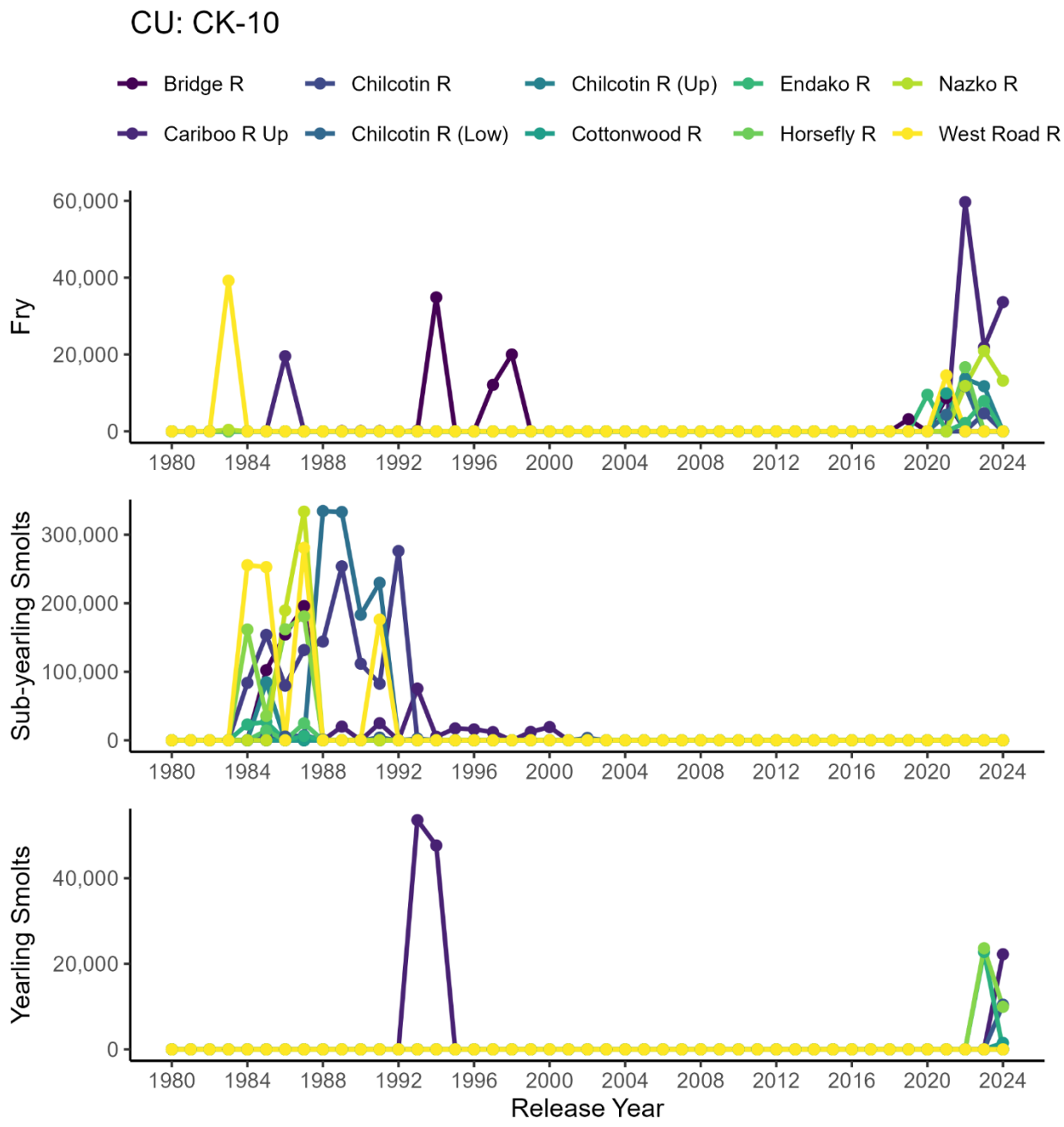

Figure A.3. Middle Fraser Spring 1.3 (CK-10) hatchery releases by life stage from 1980-2024.

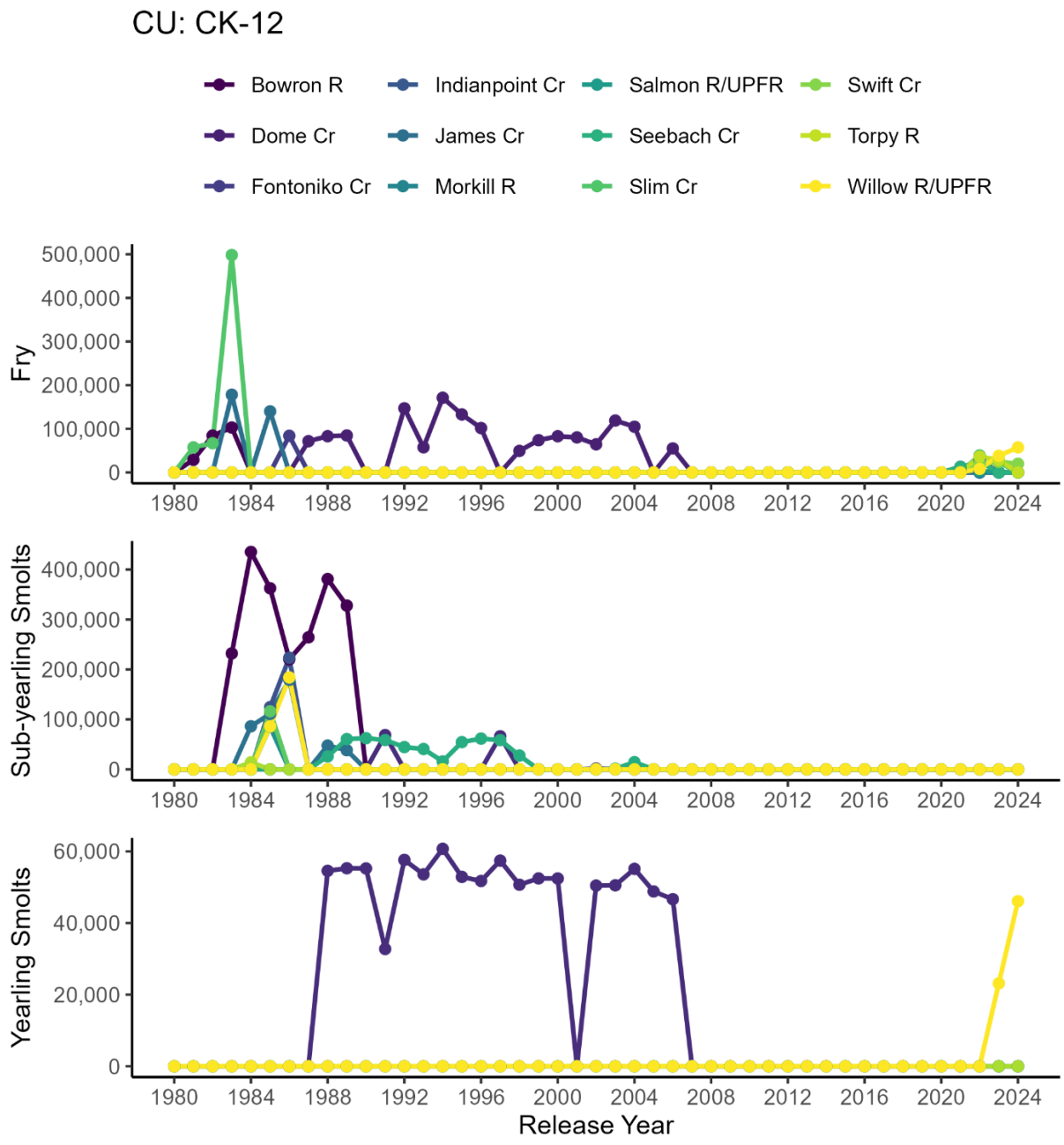

Figure A.4. Upper Fraser Spring 1.3 (CK-12) hatchery releases by life stage from 1980-2024.

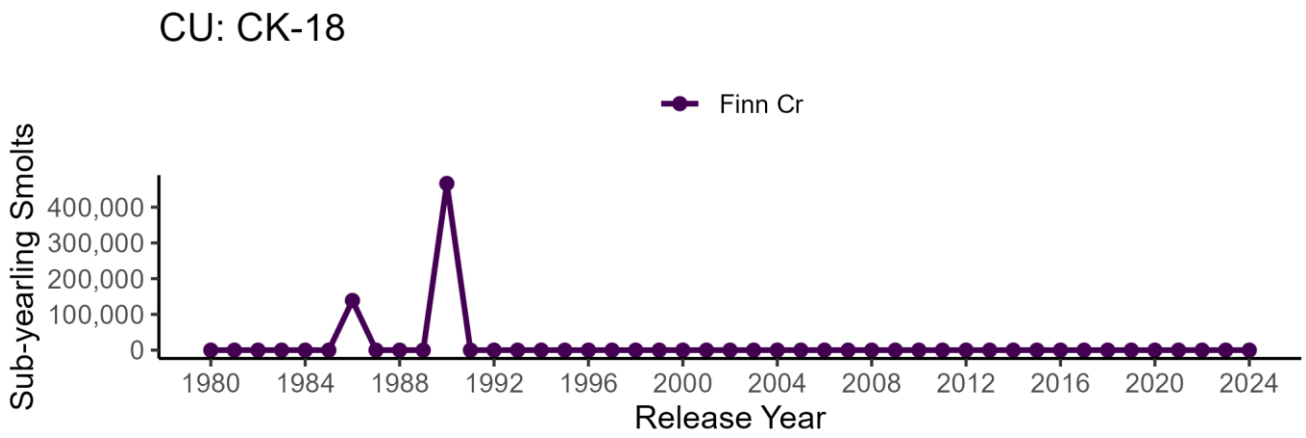

Figure A.5. North Thompson Spring 1.3 (CK-18) hatchery releases by life-stage from 1980-2024.

Appendix B: WSP rapid status approach details

The decision tree sequence is as follows (see Figure B.1; Table B1, B2):

1. The first question is whether or not a CU has a current absolute abundance value, and if so, whether or not this value falls below the lower threshold of 1,500 (which adds a buffer to Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Criterion D1 for small population size of 1,000). If the answer to this question is Yes, then the CU is assigned Red (node 3), with *High confidence*.
2. If the answer to the first question is No, then the second question is whether or not the CU has a current absolute abundance value, and if so, whether or not the current abundance is below the upper threshold of 10,000, which is COSEWIC's Criterion C upper benchmark. This second question splits the decision nodes into two Pathways: Pathway 1 (No to this question) and Pathway 2 (Yes to this question).
    - **Pathway 1:** is where a CU either does not have a current absolute abundance value, or has these data, and it falls above the upper threshold for this metric. This pathway is split with the question: can this CU be assessed with a relative abundance metric. If the answer is Yes, a Red (nodes 19), Amber (nodes 37) or Green (node 36) WSP rapid status is assigned, with High confidence, depending on where the current abundance value falls relative to this metric's lower and upper thresholds. If the answer is NO, then comparisons are made between the CUs current abundances and percent change to thresholds for these metrics, which assign a Red with Medium confidence, or Green or Amber with Low confidence status.
    - **Pathway 2:** is where a CU has absolute abundance data, and these abundances fall between the lower and upper thresholds. In this pathway, absolute abundances restrict WSP rapid statuses to only Amber or Red. This pathway is split with the question: can this CU be assessed with a relative abundance metric. If the answer is Yes, an Amber (node 22) with Medium confidence, or Red (node 23) with High confidence, is assigned, depending on whether the CUs current abundance value falls above the relative abundance metric lower threshold or below. If the CU cannot be assessed with a relative abundance metric, then it is compared to the lower threshold of the Long-Term trend metric and assigned Amber (node 20) with Medium confidence if above, or Red (node 21) with Medium confidence if below.

Table B1. Biological status zones under the Wild Salmon Policy (WSP).

Status		Definition
	Red	Poor status CU facing an imminent threat of extinction [revised definition, given alignment with COSEWIC *Endangered* statuses]
	Amber	"While a CU in the *Amber* zone should be at low risk of loss, there will be a degree of lost production. Still, this situation may result when CUs share risk factors with other, more productive units". Aligns with COSEWIC *Threatened and Special Concern* statuses.
	Green	"identif[ies] whether harvest are greater than the level expected to provide on an average annual basis, the maximum annual catch for a CU, given existing conditions…there would not be a high probability of losing the CU". Aligns with COSEWIC *Not at Risk* statuses.
	DD	**Data deficient**. CUs have been designated as DD if there is no data available, or if the available data is insufficient for calculating status metrics (after quality control).

Table B2. WSP rapid status *Learning Tree 3* status assignments by node (see Figure B.1). This table presents the decisions in *Learning Tree 3* that led to *Red* or *Amber* or *Green* status assignments; status outcomes depend on the pathway and decisions made. The final node that corresponds to the status assignment is presented below (see Figure 1).

Node	Status	Rule
Node3	*Red*	Data Type is Absolute Abundance AND *Absolute Abundance* < 1,500
Node17	*Red*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Relative Index OR *Absolute Abundance* ≥ 10,000; then no *Relative Abundance* lower benchmark; then *Long Term Trend* < 79%
Node19	*Red*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Relative Index OR *Absolute Abundance* ≥ 10,000 then have *Relative Abundance* lower benchmark*;* then *Relative Abundance < Relative Abundance* lower benchmark
Node20	*Amber*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Absolute Abundance AND *Absolute Abundance<10,000;* then no *Relative Abundance* lower benchmark; then *Long Term Trend* ≥ 79%
Node21	*Red*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Absolute Abundance AND *Absolute Abundance<10,000;* then no *Relative Abundance* lower benchmark; then *Long Term Trend* < 79%
Node22	*Amber*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Absolute Abundance AND *Absolute Abundance<10,000;* then have *Relative Abundance lower benchmark;* then *Relative Abundance* ≥ *Relative Abundance* lower benchmark

Node23	*Red*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Absolute Abundance AND *Absolute Abundance<10,000;* then have *Relative Abundance lower benchmark;* then *Relative Abundance < Relative Abundance* lower benchmark
Node33	*Red*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Relative Index OR *Absolute Abundance* ≥ 10,000; then no *Relative Abundance* lower benchmark; then *Long Term Trend* ≥ 79%; then Percent Change < -70
Node36	*Green*	Data Type is Relative Index OR Absolute Abundance ≥ 1,500; then Data Type is Relative Index OR Absolute Abundance ≥ 10,000 then have Relative Abundance lower benchmark; then Relative Abundance ≥ Relative Abundance lower benchmark; then Relative Abundance ≥ Relative Abundance upper benchmark x 1.1
Node37	*Amber*	Data Type is Relative Index OR Absolute Abundance ≥ 1,500; then Data Type is Relative Index OR Absolute Abundance ≥ 10,000 then have Relative Abundance lower benchmark; then Relative Abundance ≥ Relative Abundance lower benchmark; then Relative Abundance < Relative Abundance upper benchmark x 1.1
Node64	*Green*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Relative Index OR *Absolute Abundance* ≥ 10,000; then no *Relative Abundance* lower benchmark; then *Long Term Trend* ≥ 79%; then Percent Change < -70 then *Long Term Trend* ≥ 233
Node65	*Amber*	Data Type is Relative Index OR *Absolute Abundance* ≥ 1,500; then Data Type is Relative Index OR *Absolute Abundance* ≥ 10,000; then no *Relative Abundance* lower benchmark; then *Long Term Trend* ≥ 79%; then Percent Change < -70 then *Long Term Trend* < 233

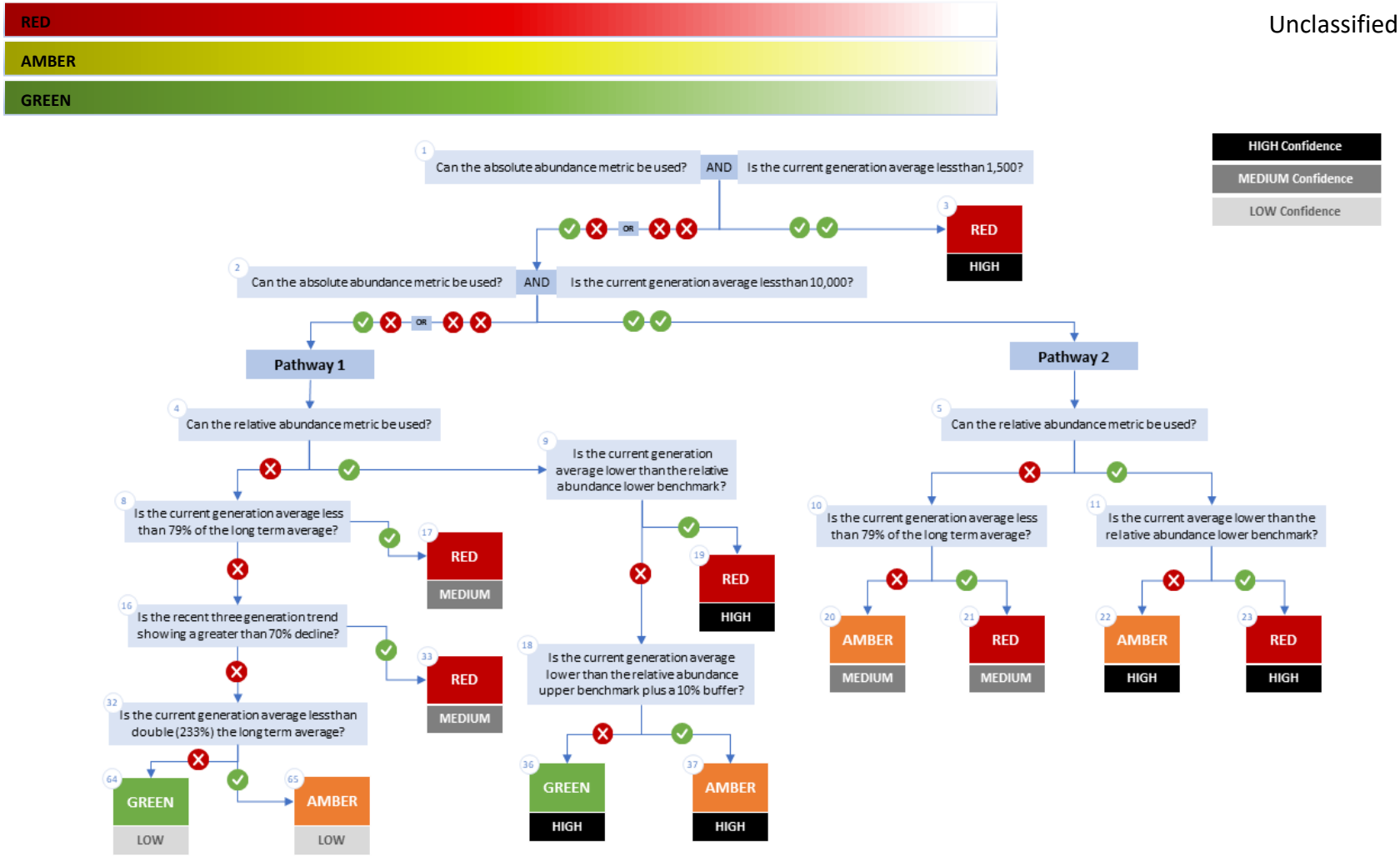

Figure B.1. WSP rapid status decision tree (Table 2 includes written descriptions). To assess a CU, metric values are compared to thresholds presented at each decision point. Yes or No answers split each path of the decision tree, terminating at WSP rapid status assignments. The different splits are identified as nodes: 1 to 65. **Pathway 1** is taken when the CU has no absolute abundance data, or these data exist, but fall above its upper threshold of 10,000. **Pathway 2** is taken when the CU has absolute abundance data and these fall under its upper benchmark of 10,000.

Appendix C: Meeting History and Participants

Tables and summaries of meetings and participants, specifically participants who identified as a subject matter expert for one or more CUs.

Table C1. Participants for the expert review of Fraser Interior Area Chinook held January 31, 2025, 1:00-4:30pm PST.

Attendee	Affiliation
Chuck Parken	DFO
Colin Bailey	DFO
Morgan Dunne	DFO
Nicole Trouton	DFO
Amber Messmer	DFO
Sue Grant	DFO
Bronwyn MacDonald	DFO
Simon-Luc Noel	DFO
Isabella Borea	DFO
Marissa Glavas	DFO
Elinor McGrath	Okanagan Nation Alliance
Peter Nicklin	Tŝilhqot'in National Government
Kelsey Campbell	A'Tlegay Fisheries
Michelle Walsh	Shuswap Nation

Table C2. Participants for the expert review of Spring and Summer 1.3 Fraser Interior Area Chinook held August 25th , 2025 1:00-4:00pm PST.

Attendee	Affiliation
Shamus Curtis	Upper Fraser Fisheries Alliance
Michelle Walsh	Shuswap Nation
Chuck Parken	DFO
Colin Bailey	DFO
Isabella Borea	DFO
Nicole Trouton	DFO
Tommy Pontbriand	DFO
Simon-Luc Noel	DFO
Sue Grant	DFO