NEWFOUNDLAND AND LABRADOR PROVINCIAL COURT JUDGES' PENSION PLAN

REPORT ON THE ACTUARIAL VALUATION AS AT DECEMBER 31, 2022

NEWFOUNDLAND AND LABRADOR REGISTRATION NO. 075570
CRA REGISTRATION NO. 1119015

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PREPARED BY:

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Summary of Results

Going Concern Financial Position	December 31, 2022	December 31, 2019
Going concern value of assets	$15,734,000	$13,297,100
Going concern liability	12,069,300	10,384,300
Going concern excess / (unfunded liability)	$3,664,700	$2,912,800
Funded ratio	130.4%	128.1%

Solvency Financial Position and Hypothetical Wind-Up Financial Position	December 31, 2022	December 31, 2019
Solvency assets	$15,659,000	$13,222,100
Solvency liabilities	13,905,900	14,837,300
Solvency excess / (deficit)	$1,753,100	($1,615,200)
Solvency ratio	112.6%	89.1%

Maximum Funding Valuation (MFV) Financial Position	December 31, 2022	December 31, 2019
MFV value of assets	$15,734,000	$13,297,100
MFV actuarial liability	11,509,600	9,488,800
MFV excess / (unfunded liability)	$4,224,400	$3,808,300
Funded ratio	136.7%	140.1%

Funding Requirements - Going Concern Basis	Year Following December 31, 2022	Year Following December 31, 2019
Total current service cost	$715,100	$654,900
Estimated judge contributions	(362,800)	(341,000)
Estimated Government's current service cost	$352,300	$313,900
Government current service cost as a percentage of judges' pensionable earnings	8.7%	8.3%
Government current service cost as a percentage of judges' required contributions	97.1%	92.1%

Funding Requirements - MFV	Year Following December 31, 2022	Year Following December 31, 2019
Total current service cost	$648,000	$674,900
Estimated judge contributions	(319,000)	(341,000)
Estimated Government's current service cost	$329,000	$333,900
Government current service cost as a percentage of judges' pensionable earnings	9.3%	8.8%
Government current service cost as a percentage of judges' required contributions	103.1%	97.9%
Minimum special payments	$0	$0
Estimated minimum Government contribution for following year	$0	$0
Estimated maximum eligible Government contribution for the following year	$0	$0

SECTION I INTRODUCTION AND PURPOSE OF VALUATION

At the request of the Government of Newfoundland and Labrador (the "Government"), we have completed an actuarial valuation of the registered pension plan ("RPP") portion of the *Provincial Court Judges' Pension Plan Act* (the "Plan") as of December 31, 2022. The last actuarial valuation was performed as at December 31, 2019.

The *Provincial Court Judges' Pension Plan Act* consists of a registered pension plan under the *Income Tax Act* and a supplementary plan ("SERP"), which provides benefits in excess of what can be provided under the *Income Tax Act*. This report focuses only on the registered pension plan ("RPP"). It does not include the liabilities in respect of the SERP.

The purposes of this actuarial valuation are as follows:

- to determine the financial position of the Plan on going concern, solvency, and hypothetical wind-up bases;
- to establish the minimum and maximum contributions to the Plan until the next valuation; and
- to meet the statutory filing requirements under the Newfoundland and Labrador *Pension Benefits Act, 1997* ("PBA") and the *Income Tax Act*.

For the purposes of the *Income Tax Act and Regulations*, the Plan is a "Designated Plan"; therefore, the deductibility of contributions to the Plan is limited based on a Maximum Funding Valuation as described in Section 8515 of the *Income Tax Regulations*.

In this report, we provide the valuation results, along with an actuarial opinion with funding levels for use until the next valuation. The data, actuarial assumptions and methodology used in valuing both the assets and the liabilities of this pension plan is provided by way of appendices for ease of reference.

The intended users of this report are the Government of Newfoundland and Labrador, the Newfoundland and Labrador Office of the Superintendent of Pensions and the Canada Revenue Agency. This report is not intended or necessarily suitable for purposes other than those listed above. Any party reviewing this report for other purposes should have their own actuary or other qualified professional assist in their review to ensure that the party understands the assumptions, results and uncertainties inherent in our estimates. This report and any opinions within may not be modified or otherwise provided, in whole or in part, to any other person or entity without the express written permission of Eckler Ltd (unless required by applicable legislation). Eckler takes no responsibility for the consequences of any other use of this report.

The next valuation of the Plan must be completed as at a date no later than December 31, 2025 in accordance with the PBA.

Reliance

We have relied on the asset information as provided in the financial statements prepared by the Treasury Board Secretariat. We have also relied on the Plan administrator to provide all relevant data and to confirm the pertinent Plan terms.

Terms of Engagement

For the purposes of this actuarial valuation report, the significant terms of engagement with the Government of Newfoundland are:

- For the going concern, hypothetical wind-up and solvency valuations we have been directed to use the market value of assets adjusting for amounts in transit and amounts payable.
- A margin for adverse deviations has been included in the economic assumptions.
- Plausible adverse scenarios are being applied to the going concern valuation.
- The terms of our engagement are in accordance with applicable pension regulations and accepted actuarial practice in Canada.

SECTION II PLAN CHANGES AND SUBSEQUENT EVENTS

The pension plan for the Provincial Court Judges has been in effect since April 1, 2002 and was established for individuals who have been appointed as a judge under the *Provincial Court Act, 1991*.

The previous valuation was prepared as at December 31, 2019. There have been no amendments or changes to the Plan between the last actuarial valuation and this valuation effective December 31, 2022.

A more detailed description of the provisions of the Plan is contained in Appendix E, at the end of this report.

Actuarial Assumptions

There have been changes to the going concern assumptions since the last valuation. The going concern discount rate has changed from 5.70% per annum to 5.95% per annum. In addition, the underlying inflation assumption has been changed from 2.00% per annum to 2.10% per annum. Accordingly, the assumed future increase to the YMPE and DB limit have been increased by 0.10%. The assumed salary increase rate has also been decreased from the 3.00% per annum used in the previous actuarial valuation to 2.50% per annum. Finally, the post-retirement indexing assumption has increased from 0.85% per annum used in the previous actuarial valuation to 0.90% per annum used for the December 31, 2022 valuation and reflects our current economic outlook.

The change in the going concern discount rate has decreased going concern liabilities by $374,300 and current service cost by $28,000. The change in the inflation assumption has increased going concern liabilities by $34,100 and current service cost by $4,000. The change in the salary assumption has had no impact on going concern liabilities or current service cost since all active members who are accruing benefits have reached the ITA maximum. The change in the post-retirement indexing assumption has increased going concern liabilities by $58,600 current service cost by $3,800. The net impact of all the assumption changes is a decrease in going concern liabilities of $281,600 and in current service cost of $20,200.

The solvency assumptions have also been changed to reflect market conditions at the valuation date in accordance with the Canadian Institute of Actuaries' (CIA's) Standards of Practice and the CIA's Educational Note: Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates on or after December 31, 2022, and No Later Than June 29, 2024.

The actuarial assumptions used in the valuation are provided in Appendix B.

Subsequent Events

We are not aware of any events that occurred between the valuation date and the date this report was completed that would have a material impact on the results of this valuation.

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Section III Financial Position of the Plan

A. Going Concern Basis: Financial Position as at December 31, 2022

Our calculations show that the total actuarial present value as at December 31, 2022 for all benefits accrued to active judges, retirees and survivors is $12,069,300 (rounded to the nearest $100). This compares to going concern assets of $15,734,000 and results in a going concern excess of $3,664,700 as at December 31, 2022. The valuation balance sheet shown below summarizes the going concern financial position of the Plan as at December 31, 2022 and as at December 31, 2019 for comparative purposes.

Financial Position – Going Concern Basis

	December 31, 2022	December 31, 2019
Going concern assets		
Market value of assets	$15,734,000	$13,303,000
Receivables / (payables)	0	(5,900)
Total going concern assets	$15,734,000	$13,297,100
Going concern liabilities		
Active judges	$7,965,300	$5,902,100
Retirees and survivors	4,104,000	4,482,200
Total going concern liabilities	$12,069,300	$10,384,300
Going concern excess / (unfunded liability)	**$3,664,700**	**$2,912,800**
Going concern funding ratio	**130.4%**	**128.1%**

As shown above, the December 31, 2022 actuarial valuation has revealed a going concern excess in the amount of $3,664,700. This compares to a going concern excess at the previous valuation of $2,912,800.

Sensitivity Analysis

Below we show the impact on the going concern actuarial liability as at December 31, 2022 of a one percentage point drop in the discount rate assumption (i.e., from 5.95% per annum to 4.95% per annum). All other assumptions were kept unchanged.

Going Concern Sensitivity

	Impact 1% Drop
Total Going Concern Actuarial Liability	$13,700,600

The change in the actuarial liability would have the impact of increasing the liability by $1,631,300 or 13.5% as at December 31, 2022.

Reconciliation of Going Concern Financial Position

The reconciliation provides an independent cross-check of the calculations performed, and also determines the chief reasons leading to the change in the surplus and/or unfunded liabilities (deficiencies) that have occurred since the previous valuation date.

Although a complete analysis down to the final dollar can be made, such an analysis requires the processing of a considerable amount of detailed data relating to the Plan; the expense of which would not normally be justified unless there were special circumstances. However, it is possible to make an approximate analysis along broader lines and, under normal circumstances, this type of analysis will produce meaningful results.

The table below summarizes the results of our reconciliation of change in financial position over the past year.

RECONCILIATION OF GOING CONCERN FINANCIAL POSITION

Going concern excess / (unfunded liability) as at December 31, 2019	$2,912,800
Interest on unfunded liability at 5.70%	527,000
Contributions less than current service cost	(1,107,800)
Investment experience	1,471,5500
Retirement experience	220,900
Mortality experience	(300)
Indexing more than expected	(8,600)
Termination experience	(239,200)
ITA maximum increases more than expected	(352,900)
Data changes	(90,100)
Change in discount rate assumption	374,300
Change in YMPE/DB Limit increase assumption	(34,100)
Change in indexing assumption	(58,600)
Other gain and loss items	49,800
Going concern excess / (unfunded liability) as at December 31, 2022	$3,664,700

B. Solvency Basis: Financial Position as at December 31, 2022

The "solvency basis" is a hypothetical construct intended to portray the funded status of the Plan had it terminated or wound-up effective on the valuation date. That is, an assessment is made as to whether the assets of the pension fund would be sufficient if no further benefits are provided and all judges were paid their entitlements as an annuity, a deferred annuity, or as a commuted value.

The financial position of the Plan on a solvency basis as at December 31, 2022 and as at December 31, 2019 for comparison purposes is as follows:

FINANCIAL POSITION – SOLVENCY BASIS

	December 31, 2022	December 31, 2019
Solvency assets		
Market value of assets	$15,734,000	$13,303,000
Receivables / (payables)	0	(5,900)
Termination expense provision	(75,000)	(75,000)
Total solvency assets	$15,659,000	$13,222,100
Solvency liabilities		
Active judges	$9,509,700	$9,226,200
Retirees and survivors	4,396,200	5,611,100
Total solvency liabilities	$13,905,900	$14,837,300
Solvency excess / (deficiency)	**$1,753,100**	**($1,615,200)**
Solvency ratio	**112.6%**	**89.1%**

As shown above, the solvency valuation has revealed a solvency excess of $1,753,100 as at December 31, 2022. This compares to a solvency deficiency of $1,615,200 as at the previous valuation.

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Sensitivity Analysis

Below we show the impact on the solvency actuarial liability as at December 31, 2022 of a one percentage point drop in the discount rate assumption. All other assumptions were kept unchanged.

SOLVENCY SENSITIVITY

	Impact 1% Drop
Total Solvency Actuarial Liability	$15,899,800

The change in the actuarial liability would have the impact of increasing the liability by $1,993,900 or 14.3% as at December 31, 2022.

Incremental Cost

In accordance with the Canadian Institute of Actuaries' Standard of Practice, we have estimated the incremental cost of the solvency liability as at December 31, 2022. This is the present value of the expected aggregate change in solvency liability between December 31, 2022 and the next valuation date, adjusted for expected benefit payments. The next valuation is expected to be as at December 31, 2025.

The estimated incremental cost for the period December 31, 2022 to December 31, 2025 is $1,864,000. The estimated incremental cost does not impact the funding requirements of the Plan and is for information purposes only.

The methodology for calculating the incremental cost was to determine the solvency liability as at the end of the cost period, allowing for new benefits expected to accrue in the interim. New benefits include future pension accruals and future qualification for early retirement benefits, if applicable. The present value of this future liability (adjusted for the impact of benefit payments made) was then compared to the current solvency liability to determine the incremental cost.

C. Hypothetical Wind-up Basis: Financial Position as at December 31, 2022

The wind-up financial position of the Plan as at December 31, 2022 would be the same as the solvency financial position. Therefore, if the Plan were to wind-up as at December 31, 2022, there would be a wind-up surplus of $1,753,100.

D. Maximum Funding Valuation for Designated Plans: Financial Position as at December 31, 2022

This is a Designated Plan for income tax purposes and Section 8515 of the *Income Tax Regulations* applies with respect to the eligibility of contributions to the pension plan. We are required to use assumptions appropriate for a "Maximum Funding Valuation" as prescribed by Section 8515 of the Regulations. These assumptions are summarized in Appendix B.

The valuation balance sheet shown below summarizes the liability figures and the corresponding asset values as at December 31, 2022 and as at December 31, 2019 for comparative purposes.

FINANCIAL POSITION – MAXIMUM FUNDING VALUATION BASIS

	December 31, 2022	December 31, 2019
Assets		
Market value of assets, adjusted for in-transit amounts	$15,734,000	$13,297,100
Maximum Funding Valuation liabilities		
Active judges	$8,173,800	$5,960,100
Retirees and survivors	3,335,800	3,528,700
Total Maximum Funding Valuation liability	$11,509,600	$9,488,800
Maximum Funding Valuation excess / (deficiency)	**$4,224,400**	**$3,808,300**
Funded ratio	**136.7%**	**140.1%**

As shown above, on a Maximum Funding Valuation basis there is an excess of $4,224,400 as at December 31, 2022. This excess exceeds 25% of the liabilities therefore the Plan has an excess surplus of $1,347,000 ($4,224,400 – 25% x $11,509,600).

SECTION IV FUNDING REQUIREMENTS

A. Going Concern Basis: Current Service Cost

The Plan's current service cost is the value of the benefits accruing to judges in the year following the valuation determined on a going concern basis. Note that actual contribution amounts are subject to the limits contained in the *Income Tax Regulations* and are limited by the results of the Maximum Funding Valuation.

The table below summarizes the results of the Plan's current service cost for the 12-month period from December 31, 2022 and the comparison with the required judge contributions over this period. The cost of benefits accruing in respect of the year following the valuation date is $715,100.

CURRENT SERVICE COST

	% of Payroll	$
Estimated contributory payroll for 2023 service		4,030,600
Total value of benefits	17.7	715,100
Judge required contributions	9.0	(362,800)
Balance = Government required contributions	8.7	352,300
Balance as a % of judge contributions		97.1%

The Government current service cost has increased as a percentage of judge contributions from 92.1% to 97.1% following this valuation.

CURRENT SERVICE COST RECONCILIATION

Government current service cost as a percentage of judge contributions as at December 31, 2019	92.1%
Changes in Plan demographics	10.6%
Change in discount rate assumption	(7.7%)
Change in YMPE/DB limit increase assumption	1.1%
Change in indexing assumption	1.0%
Government current service cost as a percentage of judge contributions as at December 31, 2022	97.1%

Sensitivity Analysis

Below we show the impact on the current service cost as at December 31, 2022 of a one percentage point drop in the discount rate assumption. All other assumptions were kept unchanged.

CURRENT SERVICE COST SENSITIVITY

	Impact 1% Drop
Total Current Service Cost	$838,500

The change in the discount rate would have the impact of increasing the current service cost by $123,400 or 17.3% as at December 31, 2022.

B. Maximum Funding Valuation Basis: Current Service Costs

The Maximum Funding Valuation current service cost is the value of the benefits accruing to judges in the year following the valuation determined on a Maximum Funding Valuation basis.

The Maximum Funding Valuation current service cost for the 12-month period following December 31, 2022 is as follows:

CURRENT SERVICE COST

	% of Payroll	$
Estimated contributory payroll for 2023 service		3,544,000
Total value of benefits for service	18.3	648,000
Judge required contributions	9.0	(319,000)
Balance = Government required contributions	9.3	329,000
Balance as a % of judge contributions		103.1%

Government contributions are subject to the limits contained in the *Income Tax Regulations* and are limited by the results of the Maximum Funding Valuation. Employer contributions are not permitted to a Plan where an excess surplus exists. An excess surplus exists because the Maximum Funding Valuation excess is greater than 25% of the Maximum Funding Valuation liabilities. As at December 31, 2022, there is an excess surplus of $1,347,000 ($4,224,400 – 25% x $11,509,600). As a result, no Government contributions are permitted to the Plan until the excess surplus is extinguished.

C. Maximum Contribution

The maximum employer contribution for a Designated Plan is equal to the smaller of:

- The maximum contribution under the going concern valuation, and
- The maximum contribution under the Maximum Funding Valuation basis.

As stated above, under the Maximum Funding Valuation there is an excess surplus and, therefore, no Government contributions are permitted to the Plan and the maximum Government contribution is $0.

SECTION V ACTUARIAL OPINION

The following represent our primary conclusions as a result of the actuarial valuation as at December 31, 2022:

1. As at December 31, 2022 the Plan has a going concern excess of $3,664,700.
2. The Plan has a solvency excess of $1,753,100 determined as at December 31, 2022.
3. The solvency ratio of the Plan is 112.6%.
4. If the Plan were to be wound up on the valuation date, the value of assets would exceed the actuarial liabilities by $1,753,100.
5. Pursuant to paragraph 41(5)(a) of the Pension Benefits Act Regulations, the Plan is exempt from the minimum funding requirements. There is also a solvency excess, therefore, no solvency special payments are required.
6. As at December 31, 2022, there is a Maximum Funding Valuation excess of $4,224,400.
7. The cost of benefits accruing in respect of the year following the valuation date is $715,100 on a going concern basis and $648,000 on a Maximum Funding Valuation basis. This can be expressed as 97.1% of member contributions on a going-concern basis and 103.1% of member contributions on a Maximum Funding Valuation basis.
8. Pursuant to the *Income Tax Act,* there is an excess surplus based on the going concern valuation in the amount of $647,400 as of the valuation date. The excess surplus based on the Maximum Funding Valuation is $1,347,000.
9. As there is an excess surplus, government contributions cannot be made until the excess surplus is extinguished. The excess surplus is not expected to be extinguished before the next valuation, therefore the maximum government contribution permitted until the next valuation is $0.
10. The adequacy and appropriateness of this funding level should be reviewed at the next actuarial valuation of this Plan, which should take place as at December 31, 2025 at the latest.
11. We are not aware of any events that occurred between the valuation date and the date this report was completed that would have a material impact on the results of this valuation.

12. In my opinion,

    a. the data on which the valuation is based are sufficient and reliable for the purposes of the valuation as described in Section I;

    b. the going concern, solvency and hypothetical wind-up assumptions described herein are appropriate for the purposes of the valuation;

    c. the Maximum Funding Valuation assumptions described herein are in accordance with Section 8515 of the *Income Tax Regulations*;

    d. the methods employed in the going concern, solvency and hypothetical wind-up valuations are appropriate for the purposes of the valuation; and

    e. the methods employed in the Maximum Funding Valuation are in accordance with Sections 8515 and 8516 of the *Income Tax Regulations*.

This report has been prepared, and my opinions given, in accordance with accepted actuarial practice in Canada.

Nonetheless, emerging experience, differing from the assumptions, will result in gains or losses which will be revealed in future valuations.

Respectfully submitted,

Philip Churchill

Philip Churchill, FSA, FCIA

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APPENDIX A PLAN ASSETS

The pension fund is held by CIBC Mellon Global Securities Service. We have relied upon financial statements of the Plan for 2020, 2021, and 2022 provided by the Treasury Board Secretariat.

The following is a summary of the market value of Plan assets by category as at December 31, 2022:

PLAN ASSETS AS AT DECEMBER 31, 2022

December 31, 2022	$	% actual	% target
Cash & cash equivalents	$0	0	0
Fixed income	3,146,800	20	20
Canadian equity	3,776,200	24	25
Global equity	8,811,000	56	55
Total	**$15,734,000**	**100**	**100**

Reconciliation of Plan Assets

A summary of pension fund transactions for the period January 1, 2020 to December 31, 2022 is summarized below:

RECONCILIATION OF ASSETS

Year Ending December 31	2020	2021	2022
Net Assets Available for Benefits January 1	$13,302,000	$15,772,000	$19,051,000
Adjustment to financial statements	0	0	0
Plus:			
Judge Contributions	344,000	369,000	394,000
Government Contributions	0	0	0
Investment income	2,570,000	3,350,000	(1,802,000)
Less:			
Retirement benefits	351,000	350,000	353,000
Lump sum refunds	0	0	1,460,000
Administrative costs	93,000	90,000	96,000
Total	**$15,772,000**	**$19,051,000**	**$15,734,000**
Payables / receivables			
Going concern assets			**$15,734,000**

Performance of Plan Assets

The rate of return on the pension fund's assets since the last valuation is shown below:

ANNUALIZED RATES OF RETURN

Year Ending	Gross Rate of Return	Net of Expenses Return
December 31, 2020	19.39%	18.63%
December 31, 2021	21.29%	20.66%
December 31, 2022	(9.85%)	(10.35%)

The average rate of return since the last valuation was 10.28% per year, or 9.65% net of expenses.

APPENDIX B ACTUARIAL METHODS AND ASSUMPTIONS

A. Going Concern Valuation

Asset Valuation Method

For the purposes of the going concern valuation, the actuarial value of assets is the market value of assets, adjusted for payments in-transit. This method was also used in the previous valuation.

Actuarial Cost Method

For the purposes of the going concern valuation, we have used the Projected Unit Credit actuarial cost method in the determination of current service contributions as well as the accrued liabilities.

In using the Projected Unit Credit method, as a first step, a calculation is made of the liability in respect of all benefits that have accrued to judges for service up to and including the valuation date based on projected earnings. This represents the "accrued liability".

As a completely separate process, the current service cost has been calculated. This represents the cost of providing the benefits that will accrue in respect of the 12-month period following the valuation date. This is compared with the amount of required judge contributions over that period. The difference represents the required additional contribution necessary in order for those benefits to be properly funded.

Under this funding method, the cost of a dollar per year of deferred pension commencing at retirement age increases with the age of a judge. Thus, the dollar cost rises steadily over an individual's working life. However, for the group as a whole, if the average age remains reasonably constant (which can occur through the retirement of older judges and the addition of new, younger judges), the recommended contribution rate will remain relatively stable. If the Plan membership's average age increases, on the other hand, the current service costs will also increase. Such increases would be revealed in future valuations.

Actuarial Assumptions

For the purposes of the going concern valuation, we select actuarial assumptions with a long-term focus. That is, we anticipate that the Plan will continue indefinitely into the future. Actuarial assumptions are selected giving consideration to historical trends, future expectations and Plan specific experience, where possible. The assumptions chosen are expected to produce a stable pattern of funding and meet the Plan sponsor's desire to minimize potential for significant shortfalls or deficits in the future.

The purpose of this part of our analysis is to determine an appropriate method and series of assumptions to make proper allowance of the Plan's future liabilities by way of payment of pensions and other benefits. In making these calculations, assumptions must be made:

1. as to the probability that a particular payment will be made at a certain time (for example, depending upon whether or not the individual concerned survives to that date); and
2. the expected amount of such payment.

In order to do this, the actuary must make a series of assumptions in connection with the many factors which will have a bearing upon the future financial operation of the pension plan. These include the following:

(a) future salary increases;

(b) future rates of mortality; and

(c) retirement experience.

Finally, the actuary must give consideration to the rate of return that will be earned on the assets of the pension fund in future years.

As part of our process of analysis, all of these factors have received consideration. Where applicable, we have taken into account the actual experience of this Plan. However, it should be noted that, from a statistical point of view, actual experience data developed from a single pension plan has limited validity unless the number of plan members is very large. Therefore, it becomes necessary to take into account statistics developed from many other pension plans.

Going Concern Discount Rate Assumption

The selection of the discount rate for this valuation was based on reasonable expectations for the relationships between key economic variables over the long term, as well as the expected impact of those economic variables on the investment performance of the pension fund given the fund's investment policy.

Based on the assumed inflation rate and other key economics expectations over the long term, and taking into account a margin for adverse deviations, the going concern discount rate assumption was developed as follows:

GOING CONCERN DISCOUNT RATE

Discount Rate Components	
"Best estimate" return reflecting the Plan's investment policy	6.40%
Diversification / rebalancing	0.25%
Added value from active management	0.20%
Provision for expenses	(0.65%)
Estimated net investment return	6.20%
Provisions for adverse deviation	(0.25%)
Going concern discount rate assumption	**5.95%**

The resulting discount rate assumption is 5.95% per annum, an increase from the 5.70% per annum used in the previous valuation.

Inflation

The inflation assumption has a direct bearing on the assumption with respect to salary increases, increases in the YMPE and Defined Benefit Limit, and pensioner indexing. The inflation assumption has been changed from 2.00% per annum to 2.10% per annum, to align with our overall economic outlook. This rate is within the Bank of Canada's 1% - 3% inflation-control target range.

YMPE and CRA Defined Benefit Limit Increase

We have assumed the Year's Maximum Pensionable Earnings (YMPE) would increase at a rate of 2.85% per annum from the current level of $66,600 in 2023.

We have assumed the defined benefit limit would also increase at a rate of 2.85% per annum from the current level of $3,506.67 for 2023. In combination with a judge's pensionable service and their year of retirement, this limit determines the maximum pension that may be payable from a registered defined benefit pension plan under the *Income Tax Act.*

These assumptions have changed since the previous valuation, consistent with the increase in the underlying inflation assumption.

Salary Increases

We have assumed an annual salary increase of 2.50% per annum for the December 31, 2022 valuation, a decrease from the 3.00% per annum used in the previous actuarial valuation. The salary increase assumption was updated to reflect the Provincial Court Judges Act amendment and long-term recommendations of the Tribunal.

Post-retirement Indexation

We have assumed an annual post-retirement indexing rate of 0.90% per annum for the December 31, 2022 valuation, an increase from the 0.85% per annum used in the previous actuarial valuation. This reflects the change to long-term inflation expectations and the Plan's indexing formula.

Mortality

For this valuation, we have continued to use the CPM 2014 Public Sector Mortality Table (CPM2014Publ), and we have assumed mortality improvements in accordance with CPM Improvement Scale B (CPM-B). The CPM 2014 Public table represents the best available information to date on the mortality patterns of Canadians participating in, or retired from, defined benefit pension plans in the public sector. Adjustment factors of 0.750 for males and 0.926 for females were applied to the mortality table. The mortality assumption has not changed since the previous actuarial valuation.

Based on this mortality assumption, the life expectancy at age 65 in 2023 is 25.1 years for a male and 25.4 years for a female.

Retirement Age

It is assumed that all judges retire at the later of age 65 and one year after the valuation date. This assumption has not changed since the previous actuarial valuation.

Marital Status

We have assumed that at the earlier of retirement or death, 90% of judges will have an eligible spouse. Further, we have continued to assume that male spouses are 3 years older than female spouses.

The following table details the actuarial assumptions that have been used in the going concern valuation.

GOING CONCERN VALUATION ACTUARIAL ASSUMPTIONS

	December 31, 2022	December 31, 2019
Discount rate:	5.95% per annum	5.70% per annum
Salary increases:	2.50% per annum	3.00% per annum
Maximum pension and YMPE:	2023: $3,506.67 and $66,600 2024+: Increase at 2.85% per annum	2020: $3,092.22 and $58,700 2021+: Increase at 2.75% per annum
Mortality:	Male: 75.0% of CPM 2014 Public Sector Mortality Table projected generationally with CPM Improvement Scale B Female: 92.6% of CPM 2014 Public Sector Mortality Table projected generationally with CPM Improvement Scale B	Male: 75.0% of CPM 2014 Public Sector Mortality Table projected generationally with CPM Improvement Scale B Female: 92.6% of CPM 2014 Public Sector Mortality Table projected generationally with CPM Improvement Scale B
Post-retirement Indexing:	0.90% per annum	0.85% per annum
Retirement age:	Later of age 65 and one year after the valuation date	Later of age 65 and one year after the valuation date
Marital status:	At retirement or death: 90% (male spouse is 3 years older)	At retirement or death: 90% (male spouse is 3 years older)
Withdrawals:	None	None
Actuarial method:	Projected Unit Credit	Projected Unit Credit

B. Solvency Valuation

The Newfoundland and Labrador *Pension Benefits Act, 1997* prescribes a solvency valuation. A solvency valuation permits the regulator to assess the solvency of the Plan should it terminate or wind-up effective on the valuation date. That is, an assessment is made as to whether the assets of the pension fund would be sufficient if no further benefits were provided and all judges were paid their entitlements. If solvency assets are not sufficient to fund solvency liabilities (i.e., the Plan has a solvency deficiency), then special payments are required in order to eliminate the deficiency, unless the Plan is subject to solvency relief or exempt from funding in accordance with the Newfoundland and Labrador *Pension Benefits Act Regulations*.

Benefits are assumed to be settled through an annuity purchase for 100% of active judges who are not retirement eligible as at the date of valuation, due to the tax implications involved with large lump sum transfers. Benefits are assumed to be settled through the purchase of annuities for judges who are eligible for retirement at the date of valuation and for all pensioners.

The solvency liabilities were calculated using an interest rate of 4.77% per annum and mortality at CPM-2014 (Combined) mortality table projected with Scale CPM-B. These assumptions represent the estimated basis for settlement of the Plan's obligations for active and retired lives by the purchase of insured annuities on the valuation date and are in accordance with the Canadian Institute of Actuaries Educational Note entitled "Assumptions for Hypothetical Wind-Up and Solvency Valuations with Effective Dates on or after December 31, 2022, and No Later Than June 29, 2024".

The CIA's Standards of Practice for Pension Commuted Values, effective December 1, 2020 states that the retirement age assumption is to be a 50% probability the member retires at the age which maximizes the commuted value and a 50% probability that the member retires at the earliest unreduced retirement age. However, the Newfoundland and Labrador *Pension Benefits Act Regulations* require the retirement age assumption to be the age which maximizes the commuted value, which has been used in this valuation.

Note that the solvency valuation does not make any assumptions about future pay increases or future terminations of employment, since all judges are assumed to terminate on the valuation date.

The actuarial assumptions for the solvency valuation are described in the following table:

SOLVENCY VALUATION ACTUARIAL ASSUMPTIONS

	December 31, 2022	December 31, 2019
Interest rates for benefits to be settled through annuity purchase:	4.77% per annum	2.96% per annum
Pre-retirement mortality:	None	None
Post-retirement mortality:	CPM-2014 Combined mortality, projected with Scale CPM-B	CPM-2014 Combined mortality, projected with Scale CPM-B
Maximum pension increase:	2.87% for 10 years; 2.87% thereafter	2.20% for 10 years; 2.29% thereafter
Post-retirement Indexing:	1.20% per annum	1.20% per annum
Retirement age:	Age 65 (i.e., age that maximizes the value of the pension)	Age 65 (i.e., age that maximizes the value of the pension)
Salary scale:	None	None
Married assumption:	90% married (male spouse is 3 years older)	90% married (male spouse is 3 years older)
Actuarial cost method:	Accrued Benefit/Termination Method	Accrued Benefit/Termination Method
Wind-up expenses	$75,000	$75,000

C. Hypothetical Wind-Up Valuation

The hypothetical wind-up valuation liability assumptions are the same as those used in the solvency valuation.

D. Maximum Funding Valuation

This is a Designated Plan for income tax purposes and Section 8515 of the *Income Tax Regulations* applies with respect to the eligibility of contributions to the pension plan for tax deductions. We are required to use assumptions appropriate for a "Maximum Funding Valuation" as prescribed by the Regulations.

The prescribed assumptions used in the Maximum Funding Valuation are as follows:

	December 31, 2022
Discount rate:	7.5% per annum
Indexing for active and deferred:	3% per annum (CPI equal to 4% less 1%), commencing one year after retirement
CPI for retirees:	4% per annum (indexing capped at 1.2% per annum)
Salary growth:	5.5% per annum
Maximum pension:	$3,506.67 in 2023 indexed at 5.5% per annum beginning in 2024
Pre-retirement mortality:	None
Post-retirement mortality:	80% of GAM83 Mortality (average of male and female tables for actives and deferred; gender-specific for retirees)
Termination:	None
Retirement:	Age 65
Judge’s age:	Actual
Spouse’s age:	Same as judge
Married assumption:	100%
Form of pension:	Joint & 66 2/3% survivor pension with a 5-year guarantee
Actuarial cost method:	Projected Unit Credit

Appendix C Membership Data

The membership data in respect of this Plan is maintained by the Treasury Board Secretariat

The data was reviewed by us as to accuracy and reasonableness and we are satisfied that the data are complete. In addition, we have performed various checks of reasonableness on dates of employment, plan membership and birth. We also compared lists of active judges with lists of retired judges to check for duplicates. In all cases, we found the data to be sufficient and reliable for the purposes of the valuation.

Appendix F contains confirmation by the Pensions Administration Division as to the accuracy and completeness of the data provided.

Plan membership data are summarized below. For comparison, we have also summarized corresponding data from the previous valuation.

Membership Data

	December 31, 2022	December 31, 2019
Active Judges		
Number	17	18
Average age	59.5	57.3
Total pensionable earnings	$4,744,500	$4,628,600
Average pensionable earnings	$279,100	$257,100
Average years of pensionable service	10.5	8.4
Retirees and survivors		
Number	9	9
Average age	75.5	72.9
Total annual pension	$355,800	$360,000
Average annual pension	$39,500	$40,000

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The membership movement for all categories of membership since the previous actuarial valuation is as follows:

Reconciliation of Membership

	Active Judges	Retirees and Survivors	Total
Total at December 31, 2019	**18**	**9**	**27**
New judges	1	0	1
Terminations	(2)	0	(2)
Deaths	0	(1)	(1)
New survivors	0	1	1
Total at December 31, 2022	**17**	**9**	**26**

APPENDIX D PLAUSIBLE ADVERSE SCENARIOS

A plausible adverse scenario is considered to be one that will occur in the short term (immediately to one year) with a likelihood of occurring between 1 in 10 and 1 in 20 based on the opinion of the actuary. The purpose of the following scenarios is to illustrate the impact on the Plan's financial position of the following adverse but plausible assumptions relative to the best estimate assumptions selected for the Plan's going concern valuation. The purpose of disclosing these results is to demonstrate the sensitivity of the funded status and annual current service cost between December 31, 2022 and December 31, 2025 to certain key risk factors affecting the Plan. The results of the scenarios selected are shown in the table below, with a description of each scenario following.

	Going Concern Results at December 31, 2022	Plausible Adverse Scenario Results at December 31, 2022		
		Interest rate risk*	Deterioration of Asset Values*	Longevity Risk
Going concern assets	15,734,000	15,917,200	12,697,300	15,734,000
Going concern liabilities	12,069,300	12,608,000	12,069,300	12,335,400
Going concern excess / (unfunded liability)	**3,664,700**	**3,309,200**	**628,000**	**3,398,600**
Current service cost	715,100	755,600	715,100	727,100
		538,700	-	266,100
% change in going concern liabilities		4.46%	-	2.20%
Change in current service cost		40,500	-	12,000
% change in current service cost		5.66%	-	1.68%
Discount rate	5.95%	5.60%	5.95%	5.95%
Life expectancy (in years) for a retiree age 65	25.2	25.2	25.2	26.1

* *Scenario shown represents the median of the worst 10% of stochastic simulations.*

<u>Interest Rate Risk</u>

This scenario illustrates the sensitivity of the funded status of the Plan and current service cost to an immediate change in the market interest rates underlying fixed income investments.

In order to assess the impact of a decrease in interest rates of a magnitude consistent with a 1 in 10 likelihood of occurring, we have used the same stochastic model that is used to determine the going concern discount rate (see Appendix B). The stochastic model is based on 5,000 simulations of projected financial variables, including long-term yields on fixed income investments and asset class returns. Our long-term best estimates for these variables, and the going concern discount rate are based on the median values of these 5,000 simulations.

To determine the sensitivity to interest rate risk, and the resulting impact on Plan assets and liabilities, we have:

- considered the hypothetical going concern discount rate over the 500 trials where fixed income yields are lowest at the one-year horizon,
- determined the decrease in median long-term fixed income yields over the 500 trials where fixed income yields are the lowest at the one-year horizon.

As such, under the interest rate risk scenario, the going concern discount rate is decreased by 35 basis points as of December 31, 2022.

With respect to the impact on fixed income assets, the scenario results in a decrease in long term yields on fixed income investments of 0.78%.

Based on the estimated duration of the Plan assets, liabilities and current service cost, we have then determined the estimated change to the Plan's funded status under the interest rate risk scenario.

Deterioration of Asset Values

This scenario illustrates the sensitivity of the funded status of the Plan to short-term shock which causes a reduction in the market value of assets, with no change to the liabilities of the Plan. This scenario is assumed not to impact the current expectation of the long-term rate of return, and consequently, the going concern discount rate.

In order to assess the impact of a decrease in asset values of a magnitude consistent with a 1 in 10 likelihood of occurring, we have used the same stochastic model that is used to determine the going concern discount rate (see Appendix B). The stochastic model is based on 5,000 simulations of projected financial returns, including long-term yields on fixed income investments and asset class returns.

To determine the sensitivity to a deterioration in asset values, based on the Plan's target asset mix, we have determined the decrease in median investment returns over the 500 trials where investment returns are lowest at the one-year horizon.

As such, under deterioration of assets values scenario, the market value of assets is decreased by 19.3% as of December 31, 2022.

Longevity Risk

This scenario illustrates the sensitivity of the funded status of the Plan to pension plan members living longer than expected. The impact of this scenario was determined using a one-year age setback to the mortality table used for the going concern valuation as of December 31, 2022. This is a more conservative mortality assumption than currently employed.

APPENDIX E SUMMARY OF PLAN PROVISIONS

Introduction

The *Provincial Court Judges' Pension Plan* is sponsored by the Government of Newfoundland and Labrador. This valuation is based on the provisions of the registered pension plan portion of the Plan, in effect on December 31, 2022. The following is a summary of the Plan's main provisions in effect on December 31, 2022. It is not intended as a complete description of the Plan.

Eligibility for Membership

A Provincial Court judge who has been appointed under the *Provincial Court Act, 1991* is eligible to join the Plan. All judges appointed prior to April 1, 2002 were provided the option to join the Plan on April 1, 2002 and were able to transfer their judge's service accrued under the *Public Service Pensions Act, 2019* after April 1, 1992 upon remitting the required contributions determined by the minister. All judges appointed on or after April 1, 2002 are required to join the Plan.

Contributions

Judges are required to contribute 9.0% of their annual salary to the registered pension plan, up to the maximum allowed under the *Income Tax Act.* A judge's contributions to the registered pension plan cease upon attainment of 20 years of pensionable service.

The Government contributes based on the recommendations of the Plan's actuary.

Normal Retirement Date

A judge is eligible to retire once they have reached age 65 and have at least 2 years of pensionable service (i.e., are vested) in the Plan.

Early Retirement Date

A judge is eligible to retire with a reduced allowance as early as age 55 if they have at least 5 years of pensionable service in the Plan. The allowance payable to a judge who retires early is reduced by:

- 6% for each year a judge's age at the commencement of the allowance is less than 65 (to a maximum reduction of 30% under this section); and
- 4.5% for each year a judge's age at the commencement of the allowance is less than 60.

Registered Allowance at Normal Retirement

The registered allowance payable to a judge at their retirement date is equal to the product of:

- 2.0%;
- annual salary at the time their service as a judge ceases; and
- number of years of pensionable service as a judge to a maximum of 20 years.

The above registered allowance is subject to any early retirement reductions applicable at the commencement date of the registered allowance.

Indexing

An allowance or survivor benefit being paid to a person who is age 65 or older shall be increased on October 1 of each year by 60% of the percentage increase in the Consumer Price Index (CPI) from two calendar years ago to the prior calendar year. The indexing is subject to a maximum of 1.2% and cannot be less than zero.

Maximum Pension

The total annual pension payable under the provisions of the Plan upon retirement, death or termination of employment cannot exceed the maximum pension as determined under the *Income Tax Act*.

Death Benefits Before Retirement

If a vested judge dies prior to commencing their allowance, the judge's surviving principal beneficiary is eligible to receive one of the following two benefits:

1. a survivor benefit equal to 60% of the judge's allowance,

   or

2. a lump sum payment equal to the greater of the following:
   a) the commuted value of the survivor benefit; or
   b) the commuted value of the judge's entitlement.

If a vested judge dies without a principal beneficiary entitled to a survivor benefit, the commuted value of the judge's entitlement will be paid to the judge's estate.

Death Benefits After Retirement

The normal form of payment for a judge without a principal beneficiary is a lifetime pension. The normal form of payment for a judge with a principal beneficiary is a joint and survivor 60% pension. If the surviving principal beneficiary dies after the judge, the survivor benefit will be paid to their surviving children while they are under the age of 18, or 25 if they are in school.

There is a guarantee that when payments cease, the difference between the judge's contributions with interest at the date the allowance commenced and the total of all benefit payments will be paid to the person whose benefits ceased or to that person's estate.

Termination Benefits

If a vested judge’s employment terminated for reasons other than death or retirement, they are eligible to receive one of the two following benefits:

1) a commuted value transfer; or

2) a deferred allowance commencing in accordance with the retirement date provisions.

APPENDIX F ADMINISTRATOR CERTIFICATION

On behalf of the Administrator of the *Provincial Court Judges' Pension Plan Act*, I hereby certify to the best of my knowledge and belief:

- The significant terms of engagement contained in Section I of this report are accurate and reflect the plan administrator's direction with respect to this valuation;
- The Summary of Plan Provisions contained in Appendix E of this actuarial report is a complete and accurate summary of the terms of the Plan which affect the funding requirements;
- The membership data provided to the actuary includes a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to December 31, 2022.
- The asset data provided or made available to the actuary is complete and accurate;
- All events subsequent to December 31, 2022 that may have an impact on the valuation have been communicated to the actuary.

Aug 17/23
Date

[illegible]
Signature

Director of Benefits
Title