

Summary prospectus

John Hancock Managed Account Shares High Yield Municipal Bond Portfolio

(formerly John Hancock Managed Account Shares Non-Investment-Grade Municipal Bond Portfolio)

Before you invest, you may want to review the fund's prospectus, which contains more information about the fund and its risks. You can find the fund's prospectus and other information about the fund, including the Statement of Additional Information and most recent reports, online at www.jhinvestments.com/underlying-funds. You can also get this information at no cost by calling 800-247-0278 or by sending an email request to info@jhinvestments.com. The fund's prospectus and Statement of Additional Information, both dated October 1, 2026, as may be supplemented, and most recent financial highlights information included in the shareholder report, dated May 31, 2026, are incorporated by reference into this summary prospectus.

Ticker

JHFMX

Investment objective

To seek a high level of interest income exempt from federal income tax.

Fees and expenses

This table describes the fees and expenses you may pay if you buy, hold, and sell shares of the fund. **You may pay other fees, such as brokerage commissions and other fees to financial intermediaries, which are not reflected in the tables and examples below.**

Shareholder fees (%) (fees paid directly from your investment)

Maximum front-end sales charge (load)	None
Maximum deferred sales charge (load)	None

Annual fund operating expenses (%) (expenses that you pay each year as a percentage of the value of your investment)

Management fee	0.63
Other expenses	0.51
Total annual fund operating expenses	1.14
Contractual expense reimbursement	-1.14 ¹
Total annual fund operating expenses after expense reimbursements	0.00

1 The advisor has contractually agreed to reimburse 100% of the fund's operating expenses, including the Management fee, excluding (a) taxes, (b) brokerage commissions, (c) interest expense, (d) litigation and indemnification expenses and other extraordinary expenses not incurred in the ordinary course of the fund's business, (e) borrowing costs, (f) acquired fund fees and expenses paid indirectly, and (g) contingent tax reclaim recovery expenses. This agreement expires on September 30, 2027, unless renewed by mutual agreement of the fund and the advisor based upon a determination that this is appropriate under the circumstances at that time. The fund is an integral part of a separately managed account program, and the fund's manager, the fund's subadvisor or their affiliates will be compensated directly or indirectly by separately managed account program sponsors or program participants for managed account advisory services. Participants in a separately managed account program pay a "wrap" fee to the sponsor of the program. Participants pay no additional fees or expenses to purchase shares of the fund.

Expense example

This example is intended to help you compare the cost of investing in the fund with the cost of investing in other mutual funds. Please see below a hypothetical example showing the expenses of a \$10,000 investment for the time periods indicated and then assuming you sell all of your shares at the end of those periods. The example assumes a 5% average annual return and that fund expenses will not change over the periods. Although your actual costs may be higher or lower, based on these assumptions, your costs would be:

Expenses (\$)

1 year	0
3 years	249
5 years	517
10 years	1,284

Portfolio turnover

The fund pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover rate may indicate higher transaction costs and may result in higher taxes when fund shares are held in a taxable account. These costs, which are not reflected in annual fund operating expenses or in the example, affect the fund's performance. During its most recent fiscal year, the fund's portfolio turnover rate was 16% of the average value of its portfolio.

Principal investment strategies

Under normal market conditions, the fund invests at least 80% of its net assets, plus amounts borrowed for investment purposes, in municipal securities, the income from which is exempt from federal income tax. Investments in bonds subject to the alternative minimum tax (AMT) may be counted toward the fund's 80% investment policy. To the extent that the fund invests in bonds that are subject to the AMT, the income paid by the fund may not be entirely tax-free to all investors.

The manager primarily invests in medium and lower quality municipal securities rated A or lower by S&P Global Ratings (S&P), Fitch Ratings, Inc. (Fitch Ratings) or Moody's Investors Service, Inc. (Moody's) or comparable rating by any nationally recognized statistical ratings organization (NRSRO) or their unrated equivalents. Non-investment grade securities may also be referred to as below investment grade securities, commonly known as “junk bonds.” The fund may invest in fixed income securities which include bonds, debt securities and other similar instruments. The fund's investment policies are based on credit ratings at the time of purchase. The fund may buy bonds of any maturity or duration. The fund may invest heavily in bonds from any given state or region and may have substantial investments in obligations of certain states and their agencies, instrumentalities, and/or political subdivisions. The fund may invest in general obligation bonds or bonds backed by revenue from a specific public project or facility, such as a power plant (revenue bonds), which tend to offer higher yields than general obligation bonds.

The fund may engage in derivative transactions that include futures contracts on debt securities and debt securities indexes; options on futures, debt securities, and debt indexes; tender option bonds and inverse floating-rate securities, in each case, for the purposes of reducing risk and/or enhancing investment returns. The fund may also use tender option bond transactions to seek to enhance potential gains. The fund will look through to the underlying municipal bonds held by a tender option bond trust for purposes of the fund's 80% policy. The fund may leverage its assets through the use of proceeds received as a result of tender option bond transactions. The fund may contribute up to 15% of its holdings in municipal securities to tender option bond transactions. The fund may also trade securities actively.

Principal risks

An investment in the fund is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Many factors affect performance, and fund shares will fluctuate in price, meaning you could lose money. The fund's investment strategy may not produce the intended results.

The fund's main risks are listed below in alphabetical order, not in order of importance. *Before investing, be sure to read the additional descriptions of these risks beginning on page 24 of the prospectus.*

Changing distribution levels risk. The fund may cease or reduce the level of its distribution if income or dividends paid from its investments declines.

Credit and counterparty risk. The issuer or guarantor of a fixed-income security, the counterparty to an over-the-counter derivatives contract, or a borrower of fund securities may not make timely payments or otherwise honor its obligations. A downgrade or default affecting any of the fund's securities could affect the fund's performance.

Economic and market events risk. Events in the U.S. and global financial markets, including actions taken by the U.S. Federal Reserve or foreign central banks to stimulate or stabilize economic growth, may at times result in unusually high market volatility, which could negatively impact performance. Reduced liquidity in credit and fixed-income markets could adversely affect issuers worldwide. Banks and financial services companies could suffer losses if interest rates rise or economic conditions deteriorate.

Fixed-income securities risk. A rise in interest rates typically causes bond prices to fall. The longer the average maturity or duration of the bonds held by a fund, the more sensitive it will likely be to interest-rate fluctuations. An issuer may not make all interest payments or repay all or any of the principal borrowed. Changes in a security's credit quality may adversely affect fund performance.

Hedging, derivatives, and other strategic transactions risk. Hedging, derivatives, and other strategic transactions may increase a fund's volatility and could produce disproportionate losses, potentially more than the fund's principal investment. Risks of these transactions are different from and possibly greater than risks of investing directly in securities and other traditional instruments. Under certain market conditions, derivatives could become harder to value or sell and may become subject to liquidity risk (i.e., the inability to enter into closing transactions). Derivatives and other strategic transactions that the fund intends to utilize include: futures contracts, inverse floating-rate securities, options on futures, and options. Futures contracts and options generally are subject to counterparty risk.

Large shareholder risk. A significant portion of a fund's shares may be owned by one or more large shareholders, including investment vehicles and institutional investors. Transactions by these large shareholders may be disruptive to the management of the fund. For example, the fund may experience large redemptions and could be required to sell securities at a time when it may not otherwise desire to do so. Such transactions may increase the fund's brokerage and/or other transaction costs, which could adversely impact fund performance. In addition, sizeable redemptions could cause the fund's total expenses to increase. Large redemptions could also require the fund to make taxable distributions to shareholders, which may be borne disproportionately by non-redeeming shareholders.

Liquidity risk. The extent (if at all) to which a security may be sold or a derivative position closed without negatively impacting its market value may be impaired by reduced market activity or participation, legal restrictions, or other economic and market impediments. Liquidity risk may be magnified in rising interest rate environments due to higher than normal redemption rates. Widespread selling of fixed-income securities to satisfy redemptions during periods of reduced demand may adversely impact the price or salability of such securities. Periods of heavy redemption could cause the fund to sell assets at a loss or depressed value, which could negatively affect performance. Redemption risk is heightened during periods of declining or illiquid markets.

Lower-rated and high-yield fixed-income securities risk. Lower-rated and high-yield fixed-income securities (junk bonds) are subject to greater credit quality risk, risk of default, and price volatility than higher-rated fixed-income securities, may be considered speculative, and can be difficult to resell.

Municipal bond risk. The prices of municipal bonds, including general obligation bonds, can decline if the issuer's credit quality declines. Revenue bond prices can decline if related projects become unprofitable. An insured municipal bond is subject to the risk that the insurer may be unable to pay claims and is not insured with respect to the market value of the obligation. Municipal bond income could become taxable in the future. Investments in bonds subject to the alternative minimum tax may result in tax liability for shareholders.

Operational and cybersecurity risk. Cybersecurity breaches may allow an unauthorized party to gain access to fund assets, customer data, or proprietary information, or cause a fund or its service providers to suffer data corruption or lose operational functionality. Similar incidents affecting issuers of a fund's securities may negatively impact performance. Operational risk may arise from human error, error by third parties, communication errors, or technology failures, among other causes.

State/region risk. Investing heavily in any one state or region increases exposure to losses in that state or region. Factors that may affect performance include economic or political changes, tax base erosion, state constitutional limits on tax increases, budget deficits and other financial difficulties, and changes in credit ratings. Because the fund has substantial investments in obligations of certain states, and their agencies, instrumentalities, and/or political subdivisions, its performance also will be affected by risk factors specific to those states.

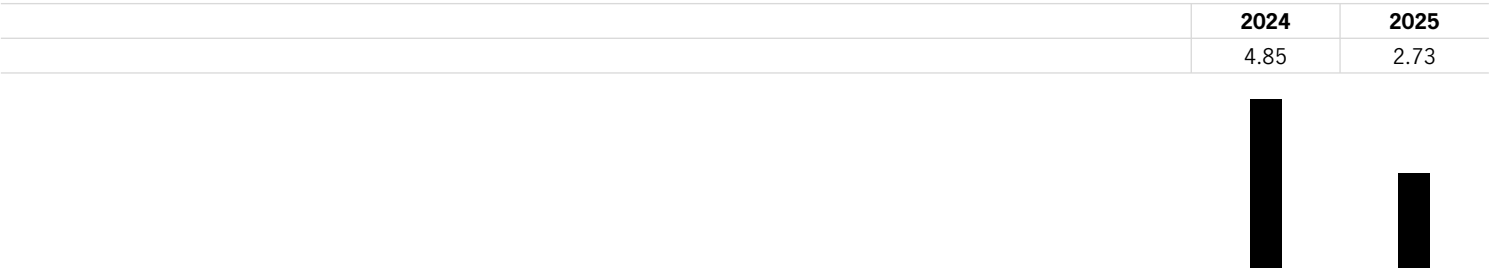
Tender option bonds risk. The fund's participation in tender option bond transactions may increase volatility and/or reduce the fund's returns. Tender option bond transactions create leverage. Leverage magnifies returns, both positive and negative, and risk by magnifying the volatility of returns. An investment in a tender option bond transaction typically involves greater risk than investing in the underlying municipal fixed rate bonds, including the risk of loss of principal.

Past performance

The following information illustrates the variability of the fund's returns and provides some indication of the risks of investing in the fund by showing changes in the fund's performance from year to year and by showing how the fund's average annual returns compared with a broad-based securities market index. Past performance (before and after taxes) does not indicate future results. The Bloomberg High Yield Municipal Bond Index shows how the fund's performance compares against the returns of similar investments. All figures assume dividend reinvestment. Performance information is updated daily, monthly, and quarterly and may be obtained at our website, jhinvestments.com, or by calling 800-247-0278, Monday to Thursday, 8:00 A.M.—7:00 P.M., and Friday, 8:00 A.M.—6:00 P.M., Eastern time.

Please note that after-tax returns reflect the highest individual federal marginal income-tax rate in effect as of the date provided and do not reflect any state or local taxes. Your actual after-tax returns may be different. After-tax returns are not relevant to shares held in an IRA, 401(k), or other tax-advantaged investment plan.

Calendar year total returns (%)



Year-to-date total return through:	Q2 2026	3.63%
Best quarter:	Q3 2025	2.63%
Worst quarter:	Q2 2025	-1.66%

Average annual total returns (%)—as of 12/31/2025	Since inception	
	1 year	02/08/2023
Before tax	2.73	4.89
after tax on distributions	0.67	2.85
after tax on distributions, with sale	1.82	2.87
Bloomberg Municipal Bond Index (reflects no deduction for fees, expenses, or taxes)	4.25	3.07
Bloomberg High Yield Municipal Bond Index (reflects no deduction for fees, expenses, or taxes)	2.46	4.58

Investment management

Investment advisor John Hancock Investment Management LLC
Subadvisor Manulife Investment Management (US) LLC

John Hancock Managed Account Shares High Yield Municipal Bond Portfolio

Portfolio management

The following individuals are jointly and primarily responsible for the day-to-day management of the fund's portfolio.

Dennis DiCicco

Portfolio Manager

Managed the fund since 2022

Adam Weigold, CFA

Senior Portfolio Manager, Head of Municipal Bonds

Managed the fund since 2022

Purchase and sale of fund shares

Shares of the fund may be purchased only by or on behalf of separately managed account clients where the fund's subadvisor or an affiliate of the subadvisor (each a "Managed Account Adviser") has an agreement with the managed account program sponsor (the "Program Sponsor"), or directly with the client, to provide management or advisory services to the managed account.

There are no maximum or minimum investment requirements in the fund (although your Program Sponsor may have certain investment requirements). Redemption orders are made based on instructions from your Managed Account Adviser or Program Sponsor to the broker/dealer who executes trades for the account. Shares of the fund can be redeemed through the broker/dealer on any day the New York Stock Exchange is open.

Taxes

The fund intends to distribute tax-exempt income. The fund intends to meet certain federal tax requirements so that distributions of the tax-exempt interest it earns may be treated as exempt-interest dividends. Distributions treated as exempt-interest dividends will not be subject to regular federal income tax. A portion of the fund's distributions may, however, be subject to federal income tax.

Payments to broker-dealers and other financial intermediaries

If you purchase the fund through a broker-dealer or other financial intermediary (such as a bank, registered investment advisor, financial planner, or retirement plan administrator), the fund and its related companies may pay the broker-dealer or other intermediary for the sale of fund shares and related services. These payments may create a conflict of interest by influencing the broker-dealer or other intermediary and your salesperson to recommend the fund over another investment. Ask your salesperson or visit your financial intermediary's website for more information.



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SEC file number: 811-04651
319SP 10/1/26