

Summary prospectus

John Hancock Managed Account Shares Non-Investment-Grade Corporate 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 10/1/22, as may be supplemented, and most recent financial highlights information included in the shareholder report, dated 5/31/22, are incorporated by reference into this summary prospectus.

Ticker

JMADX

Investment objective

To seek high level of current income consistent with prudent investment risk.

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	0.29
Total annual fund operating expenses	0.92
Contractual expense reimbursement ¹	-0.92
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 and (f) acquired fund fees and expenses paid indirectly. This agreement expires on September 30, 2023, 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	201
5 years	419
10 years	1,047

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 35% 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 any borrowings for investment purposes) in a diversified portfolio of bonds. These may include, but are not limited to, below-investment-grade debt securities (junk bonds) rated as low as CC by S&P Global Ratings (S&P) and Ca by Moody’s Investors Service, Inc. (Moody’s), or their unrated equivalents. The fund will not invest in investment-grade securities. The fund’s investment policies are based on credit ratings at the time of purchase. There is no limit on average maturity. The manager focuses on sector allocation, industry allocation, and security selection in making investment decisions. When making sector and industry allocations, the manager uses top-down analysis to try to anticipate and react to shifts in the business cycle. The manager uses bottom-up research to find individual securities that appear comparatively undervalued.

The manager considers environmental, social, and/or governance (ESG) factors, alongside other relevant factors, as part of its investment process. ESG factors may include, but are not limited to, matters regarding board diversity, climate change policies, and supply chain and human rights policies. The ESG characteristics utilized in the fund’s investment process may change over time and one or more characteristics may not be relevant with respect to all issuers that are eligible fund investments.

The fund may invest in securities of foreign governments and corporations. The fund will not invest more than 10% of its total assets in securities denominated in foreign currencies.

Under normal market conditions, the fund does not anticipate investing more than 25% of its total assets in U.S. dollar-denominated foreign securities (excluding Canadian securities). The fund may engage in derivatives transactions, including credit default swaps, foreign currency forward contracts, futures contracts, and options, to reduce risk, obtain efficient market exposure, and/or enhance investment returns. The fund may trade securities actively. The fund may invest in bonds issued by master limited partnerships.

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.

During periods of heightened market volatility or reduced liquidity, governments, their agencies, or other regulatory bodies, both within the United States and abroad, may take steps to intervene. These actions, which could include legislative, regulatory, or economic initiatives, might have unforeseeable consequences and could adversely affect the fund’s performance or otherwise constrain the fund’s ability to achieve its investment objective.

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 19 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.

ESG integration risk. The manager considers ESG factors that it deems relevant or additive, along with other material factors and analysis, when managing the fund. ESG factors may include, but are not limited to, matters regarding board diversity, climate change policies, and supply chain and human rights policies. The manager may consider these ESG factors on all or a meaningful portion of the fund’s investments. Incorporating ESG criteria and making investment decisions based on certain ESG characteristics, as determined by the manager, carries the risk that the fund may perform differently, including underperforming, funds that do not utilize ESG criteria, or funds that utilize different ESG criteria.

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.

Foreign securities risk. Less information may be publicly available regarding foreign issuers, including foreign government issuers. Foreign securities may be subject to foreign taxes and may be more volatile than U.S. securities. Currency fluctuations and political and economic developments may adversely impact the value of foreign securities. If applicable, depositary receipts are subject to most of the risks associated with investing in foreign securities directly because the value of a depositary receipt is dependent upon the market price of the underlying foreign equity security. Depositary receipts are also subject to liquidity risk.

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: credit default swaps; foreign currency forward contracts; futures contracts; and options. Foreign currency forward contracts, futures contracts, options, and swaps generally are subject to counterparty risk. In addition, swaps may be subject to interest-rate and settlement risk, and the risk of default of the underlying reference obligation. Derivatives associated with foreign currency transactions are subject to currency risk.

High portfolio turnover risk. Trading securities actively and frequently can increase transaction costs (thus lowering performance) and taxable distributions.

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.

Master limited partnership (MLP) risk. MLPs generally reflect the risks associated with their underlying assets and with pooled investment vehicles. MLPs with credit-related holdings are subject to interest-rate risk and risk of default.

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.

Sector risk. When a fund focuses its investments in certain sectors of the economy, its performance may be driven largely by sector performance and could fluctuate more widely than if the fund were invested more evenly across sectors.

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 market index. Past performance (before and after taxes) does not indicate future results. 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 (%)

	2020	2021
	5.32	4.26

Year-to-date total return. The fund’s total return for the six months ended June 30, 2022, was -14.57%.

Best quarter: 2020, Q2, 11.89%

Worst quarter: 2020, Q1, -15.15%

Average annual total returns (%)—as of 12/31/21	1 year	Since inception (07/09/19)
Before tax	4.26	5.21
after tax on distributions	2.04	2.73
after tax on distributions, with sale	2.50	2.90
ICE Bank of America U.S. High Yield Index (reflects no deduction for fees, expenses, or taxes)	5.36	6.16

Investment management

Investment advisor John Hancock Investment Management LLC

Subadvisor Manulife Investment Management (US) LLC

Portfolio management

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

Jeffrey N. Given, CFA

Managing Director and Senior Portfolio Manager
Managed the fund since 2019

Howard C. Greene, CFA

Senior Managing Director and Senior Portfolio Manager
Managed the fund since 2019

Pranay Sonalkar

Managing Director and Associate Portfolio Manager
Managed the fund since 2021

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’s distributions are taxable, and will be taxed as ordinary income and/or capital gains, unless you are investing through a tax-deferred arrangement, such as a 401(k) plan or individual retirement account. Withdrawals from such tax-deferred arrangements may be subject to tax at a later date.

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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