

MainStay DefinedTerm Municipal High Income Fund  
Form N-8A  
April 25, 2011

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM N-8A

NOTIFICATION OF REGISTRATION  
FILED PURSUANT TO SECTION 8(a) OF THE  
INVESTMENT COMPANY ACT OF 1940

The undersigned investment company hereby notifies the Securities and Exchange Commission that it registers under and pursuant to the provisions of Section 8(a) of the Investment Company Act of 1940, and in connection with such notification of registration submits the following information:

Name: MainStay DefinedTerm Municipal High Income Fund

Address of Principal Business Office (No. & Street, City, State, Zip Code):

51 Madison Avenue  
New York, New York 10010

Telephone Number: 212-576-7000

Name and Address of Agent for Service of Process:

J. Kevin Gao  
New York Life Investment Management LLC  
169 Lackawanna Avenue  
Parsippany, NJ 07054

Check appropriate box:

Registrant is filing a Registration Statement pursuant to Section 8(b) of the Investment Company Act of 1940 concurrently with the filing of Form N-8A: YES  NO

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SIGNATURES

Pursuant to the requirements of the Investment Company Act of 1940, the Registrant has caused this notification of registration to be duly signed on its behalf in the City of Parsippany, State of New Jersey, on the 25th day of April, 2011.

MainStay DefinedTerm Municipal High  
Income Fund

By: /s/ Stephen P. Fisher  
Stephen P. Fisher  
President and Principal Executive Officer

Attest:

/s/ J. Kevin Gao  
J. Kevin Gao  
Secretary and Chief Legal Officer

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