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

### FORM N-Q

# QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-22409

Tortoise MLP Fund, Inc. (Exact name of registrant as specified in charter)

11550 Ash Street, Suite 300, Leawood, KS 66211 (Address of principal executive offices) (Zip code)

David J. Schulte 11550 Ash Street, Suite 300, Leawood, KS 66211 (Name and address of agent for service)

913-981-1020 Registrant's telephone number, including area code

Date of fiscal year end: November 30

Date of reporting period: August 31, 2010

Item 1. Schedule of Investments.

Tortoise MLP Fund, Inc. SCHEDULE OF INVESTMENTS (Unaudited)

	August 31.	August 31, 2010		
Master Limited Partnerships and Related Companies - 70.3% (1)	Shares	Fair Value		
Crude/Refined Products Pipelines - 13.5% (1)				
United States - 13.5% (1)				
Buckeye Partners, L.P.	102,260	6,243,996		
Enbridge Energy Management, L.L.C.(2)	127,124	6,746,471		
Enbridge Energy Partners, L.P.	426,775	22,939,156		
Holly Energy Partners, L.P.	303,880	15,194,000		
Kinder Morgan Management, LLC (2)	335,902	19,841,731		
Magellan Midstream Partners, L.P.	673,243	32,625,356		
NuStar Energy L.P.	229,300	13,067,807		
Plains All American Pipeline, L.P.	304,650	18,291,186		
Sunoco Logistics Partners L.P.	123,600	9,152,580		
		144,102,283		
Natural Gas/Natural Gas Liquids Pipelines - 27.6% (1)				
United States - 27.6% (1)				
Boardwalk Pipeline Partners, LP	331,775	10,139,044		
Duncan Energy Partners L.P.	147,600	4,094,424		
El Paso Pipeline Partners, L.P.	210,900	6,603,279		
Energy Transfer Partners, L.P.	2,458,941	112,349,014		
Enterprise Products Partners L.P.	889,500	32,884,815		
Niska Gas Storage Partners LLC	515,666	9,735,774		
ONEOK Partners, L.P.	544,000	37,427,200		
PAA Natural Gas Storage, L.P.	70,975	1,694,173		
Spectra Energy Partners, LP	115,786	3,730,625		
TC PipeLines, LP	150,526	6,540,355		
Williams Partners L.P.	1,622,959	68,342,803		
		293,541,506		
Natural Gas Gathering/Processing - 27.2% (1)				
United States - 27.2% (1)				
Chesapeake Midstream Partners, L.P.	568,854	13,396,512		
Copano Energy, L.L.C.	1,449,100	36,401,392		
DCP Midstream Partners, LP	1,723,400	54,735,184		
MarkWest Energy Partners, L.P.	1,234,755	41,142,037		
Regency Energy Partners LP	3,111,500	73,991,470		
Targa Resources Partners LP	2,189,100	55,362,339		
Western Gas Partners LP	603,640	14,535,651		
	·	289,564,585		
Propane Distribution - 2.0.% (1)				
United States - 2.0% (1)				
Inergy, L.P.	567,410	21,130,348		
		21,130,348		
Total Master Limited Partnerships and Related Companies (Cost		,		
\$776,889,817)		748,338,722		

Short-Term Investment	ts - 30.5% (1)			
United States Investme	ent Companies - 30.5% (1)			
FFI Premier Institutional Fund - Class I, 0.28% (3) 32,025,987				32,025,987
Fidelity Institutional Government Portfolio - Class I, 0.06% (3) 8,148,2				8,148,259
Morgan Stanley Institutional Liquidity Fund - Class I, 0.22% (3) 32,0				32,014,453
UBS Select Prime Preferred Fund, 0.24% (3) 220,052,373				220,052,373
Wells Fargo Advantage Cash Investment Money Market Fund, 0.28% (3) 32,020,781				32,020,781
Total Short-Term Investments (Cost \$324,261,853)				324,261,853
Total Investments - 100.8% (1) (Cost \$1,101,151,670)				1,072,600,575
Other Assets and Liabilities - (0.8%) (1)				(8,953,505)
Total Net Assets Applicable to Common Stockholders - 100.0% (1)		\$	1,063,647,070	
	Calculated as a percentage of net assets applicable			
(1)	to common stockholders.			
(2)	Security distributions are paid-in-kind.			
	Rate indicated is the current yield as of August 31,			
(3)	2010.			
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Various inputs are used in determining the value of the Company's investments. These inputs are summarized in the three broad levels listed below:

Level 1 – quoted prices in active markets for identical investments

Level 2 -- other significant observable inputs (including quoted prices for similar investments, market corroborated inputs, etc.)

Level 3 -- significant unobservable inputs (including the Company's own assumptions in determining the fair value of investments)

The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities.

The following table provides the fair value measurements of applicable Company assets by level within the fair value hierarchy as of August 31, 2010. These assets are measured on a recurring basis.

	Fair Value at			
	August 31,			
Description	2010	Level 1	Level 2	Level 3
Equity Securities:				
Master Limited Partnerships and Related Companies(a)	\$748,338,722	\$748,338,722	\$-	\$-
Total Equity Securities	748,338,722	748,338,722	-	-
Other:				
Short-Term Investments(b)	324,261,853	324,261,853	-	-
Total Other	324,261,853	324,261,853	-	-
Total	\$1,072,600,575	\$1,072,600,575	\$-	\$-

- (a) All other industry classifications are identified in the Schedule of Investments.
- (b) Short-term investments are sweep investments for cash balances in the Company at August 31, 2010.

#### Valuation Techniques

In general, and where applicable, the Company uses readily available market quotations based upon the last updated sales price from the principal market to determine fair value. This pricing methodology applies to the Company's Level 1 investments.

There were no transfers between levels for the period from July 30, 2010 through August 31, 2010.

As of August 31, 2010, the aggregate cost of securities for federal income tax purposes was \$1,101,115,444. The aggregate gross unrealized appreciation for all securities in which there was an excess of fair value over tax cost was \$2,058,700, the aggregate gross unrealized depreciation for all securities in which there was an excess of tax cost over fair value was \$30,573,569 and the net unrealized depreciation was \$28,514,869.

#### Item 2. Controls and Procedures.

- (a) The registrant's Chief Executive Officer and its Chief Financial Officer have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940 (the "1940 Act")) are effective as of a date within 90 days of the filing date of this report, based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) or 15d-15(b) under the Securities Exchange Act of 1934, as amended.
- (b) There was no change in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant's last fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

#### Item 3. Exhibits.

Separate certifications for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2(a) under the 1940 Act (17 CFR 270.30a-2(a)) are filed herewith.

#### **SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Tortoise MLP Fund, Inc.

Date: October 28, 2010 By: /s/ Terry Matlack

Terry Matlack

Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Tortoise MLP Fund, Inc.

Date: October 28, 2010 By: /s/ Terry Matlack

Terry Matlack

Chief Executive Officer

Tortoise MLP Fund, Inc.

Date: October 28, 2010 By: /s/ P. Bradley Adams

P. Bradley Adams Chief Financial Officer