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In-Lieu Fee Program

2014 Annual Report

Submitted to the Corps on March 31, 2015

I Introduction

In 2014 the U.S. Army Corps of Engineers ("Corps") approved the Massachusetts Department of Fish and Game ("DFG") to be the sponsor of a state-wide program that would provide in-lieu fee compensatory mitigation associated with Corps permits under §404 of the Clean Water Act and/or §§9 or 10 of the Rivers and Harbors Act of 1899 and related federal rule at 33 C.F.R. Part 332 (the federal Mitigation Rule). Specifically, on May 23, 2014 the Corps and DFG signed an Instrument developed by DFG that set forth a comprehensive description of how DFG will administer its in-lieu fee program ("ILFP") in Massachusetts.

The availability of DFG's ILFP allows permittees, with the Corps' approval, to make a monetary payment in compensation for project impacts to aquatic resources of the U.S. in Massachusetts, *in-lieu of* on-site mitigation. When these in-lieu fee payments are made to the ILFP, DFG assumes legal responsibility for implementing the required mitigation, which it does by aggregating and expending the in-lieu payments on mitigation projects.

DFG's ILFP is being administered by its three divisions – the Division of Marine Fisheries ("DMF"), the Division of Fisheries and Wildlife ("DFW") and the Division of Ecological Restoration ("DER") - and will implement mitigation projects that permanently protect aquatic resources and upland buffers and/or restore impacted aquatic resources within four (4) service areas. DFG will select ILFP mitigation projects through its application of detailed prioritization criteria in the ILFP Instrument, which includes consideration of a potential project's ability to achieve multiple mitigation objectives and its support or compatibility with broader conservation or management initiatives.

From June 2008 to June 2013, DMF served as the program sponsor for an ILFP established to provide mitigation for impacts to aquatic resources of marine and diadromous fish species in Massachusetts. That ILFP, however, was limited to providing mitigation associated with coastal alteration projects that alter less than one acre of aquatic resource and meet the criteria for coverage under the Corps' General Permit ("GP") for Massachusetts. DFG's state-wide ILFP covers impacts to all types of aquatic resources from both small-sized projects covered under the GP and larger projects that require an individual permit ("IP") from the Corps. Section III of this Annual Report summarizes the history of DMF's ILFP and status of mitigation projects funded by the ILFP.

Section XVIII of the Instrument requires DFG to submit an annual report to the Corps, which must include information on each Corps-permitted project for which an ILFP payment was made to DFG, the ending balance of ILFP credits advanced and released at the end of the annual reporting period for each service area and a related financial accounting ledger. The reporting period for this first Annual Report is from the date the Corps and DFG signed the ILFP Instrument on May 23, 2014 through the end of calendar year 2014. Future DFG ILFP Annual Reports will be from January 1st through December 31st of the applicable calendar year.

II Corps-Permitted Impacts and ILFP Payments received by DFG

Table 1 below provides the following information on the four (4) Corps-permitted projects for which an ILFP payment was made to DFG in 2014:

- a key describing the types of aquatic resource impacts referenced in the Table, consistent with DFG's Instrument;
- the name of the permittee and the corresponding Corps permit number;
- the date the Corps permit was issued;
- the ILFP Service Area and town where the Corps-permitted project is located;
- the types and amounts of aquatic resources impacts by the project;
- the amount of the ILFP payment required by the Corps; and
- the date the ILFP payment was received by DFG.

As shown in **Table 1**, the total amount of ILFP payments received by DFG in 2014 is \$43,265.00.

Table 1: Summary of Payments Received by Service Area in 2014

Service Area	Name of Permittee	ACOE Permit Number	Permit Issued	Project Location	Aquatic Resource Impacted	Authorized Impact		ILF Amount Required	Date Payment Received
						Square Feet	Linear Feet		
Coastal	Global Companies, LLC	NAE-2011-106	8/1/2014	Chelsea	Marine - Subtidal	526	0	\$19,265.00	9/11/2014
					Marine - Intertidal	825	0		
Coastal Total:						1351	0	\$19,265.00	
Connecticut River	Tennessee Gas Pipeline Company	NAE-2014-1772	10/10/2014	Southwick	Riverine and Upland	0	125	\$12,500.00	10/24/2014
Connecticut River	Exxonmobil Corp.	NAE-2013-1364	10/8/2013	Greenfield	Riverine	0	90	\$9,000.00	12/9/2014
Connecticut River Total:						0	215	\$21,500.00	
Berkshire	Tennessee Gas Pipeline Company	NAE-2014-01945	10/27/2014	Tyringham	Riverine and Upland	0	25	\$2,500.00	11/6/2014
Berkshire Total:						0	25	\$2,500.00	
2014 Statewide Total:						1351	240	\$43,265.00	

Key: Aquatic Resource Impact Types		
Palustrine - Emergent	Estuarine - Salt Marsh	Marine - Subtidal
Palustrine - Shrub-Scrub	Estuarine - SAV	Marine - Intertidal
Palustrine - Fresh Water	Estuarine - Mudflats	Marine - Open Water
Palustrine - Forested Wetlands	Riverine	Upland
Vernal Pools		

Table 2 below provides the following information on the 2014 ending balance of ILFP credits by Service Area:

- the number of advance credits by Service Area, as established by the ILFP Instrument;
- the number of credits by Service Area sold by DFG in response to the ILFP payments received by DFG;
- the number of credits released by DFG (zero), which is because DFG did not implement a mitigation project in 2014; and
- the 2014 ending balance of ILFP credits by Service Area.

Table 2 - 2014 Ending Balance of Credits by Service Area

Service Area	Credits Advanced		Credits Sold		Credits Released		2014 Ending Balance	
	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet
Coastal	130.00	162,819.00	0.03	0.00	0.00	0.00	129.97	162,819.00
Worcester	52.00	2,500.00	0.00	0.00	0.00	0.00	52.00	2,500.00
Connecticut River	50.00	2,500.00	0.00	215.00	0.00	0.00	50.00	2,285.00
Berkshire	50.00	5,741.00	0.00	25.00	0.00	0.00	50.00	5,716.00

Similarly, **Table 3** below further documents, consistent with Table 2, no credits corresponding to the main mitigation components of DFG's ILFP were released by DFG in 2014.

Table 3 - Credits Released by DFG ILFP Component

DFG ILFP Component	Credits Released
Coastal/Marine	0.00
Inland Aquatic	0.00
Land Preservation	0.00
Total	0.00

Finally, **Table 4** sets forth the financial account ledger below that shows the beginning and ending balances for DFG's ILFP program account in 2014; the ILFP payments received by Service Area; the percentage (%), as established in the Instrument, of such payments allocated for DFG's ILFP administrative costs; and any interest earned (zero) and disbursements made by DFG from the program account (zero).

Table 4 - 2014 Financial Account Ledger

Service Area	Beginning Balance January 1, 2014	Payments Received	Administration Fee (17.5%)	Interest Earned	Disbursements	Ending Balance December 31, 2014
Coastal	\$0.00	\$19,265.00	\$3,371.38	\$0.00	\$0.00	\$15,893.63
Worcester	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Connecticut River	\$0.00	\$21,500.00	\$3,762.50	\$0.00	\$0.00	\$17,737.50
Berkshire	\$0.00	\$2,500.00	\$437.50	\$0.00	\$0.00	\$2,062.50
Totals	\$0.00	\$43,265.00	\$7,571.38	\$0.00	\$0.00	\$35,693.63

III. Summary of the History and Status of the DMF ILFP

A. Background and ILFP Accounting

As noted in the Introduction to this Annual Report, DMF was the program sponsor for a predecessor ILFP from June 2008 to June 2013, which pre-dated the application of the Corps' ILFP regulations at 33 C.F.R. Part 332 and was governed by a Memorandum of Understanding (MOU) between DMF and the Corps, rather than an ILFP Instrument. Since the expiration of DMF's ILFP in June 2013, no new ILFP payments have been made to DMF, and its program has been superseded by DFG's state-wide ILFP established by the Instrument signed by DFG and the Corps on May 23, 2014. However, because DMF continues to administer the ILFP payments and mitigation projects funded by such payments, this 2014 Annual Report by DFG summarizes the history and status of DMF's ILFP, consistent with the provisions of the above MOU, and concludes with updates on the progress of mitigation projects funded through the program.

Under DMF's ILF program, twenty-seven (27) projects impacting 18,980.40 ft² of aquatic habitats contributed \$229,117.00 to the program. Table 1 below provides a breakdown of authorized impacts (ft²) by service area, habitat type, and year of payment. Table 2 below provides a summary of all ILFP payments made to DMF's ILFP since its inception in 2008, including the type and amount of impact (ft²) of aquatic habitat impacted by the Corps-permitted project, the location of the impact by service area and town/watershed, the Corps permit number, the date of DMF's receipt of the ILFP payment, and deposit amount by project year. Table 3 below summarizes the financial account ledger for the life of the DMF ILFP, including the total amount of ILFP payments received, the total amount allocated for DMF's administrative set-aside (12% as established in the MOU), and the amounts used to fund the four (4) mitigation projects funded by the ILFP.

Table 4 below shows the type and frequency of habitat impacts and the corresponding ILFP payments by the three regions with the Coastal Service Area identified by DMF (North, Central and South), and that the average impact area was 790.83 ft² and the average ILF payment was \$9,546.54. Table 4 also shows that:

- the habitat category with the greatest impacted area is Open Water with 15847.75 ft²;
- the Coastal region with the largest impacted area is the South with 12938 ft² of impacted habitats;
- there were 11 impacts to aquatic habitats in the North service area, 9 impacts in the Central service area, and 11 impacts in the South service area; and
- there were 3 projects that impacted multiple habitat types.

Table 5 below shows that 10 of the 37 projects where ILFP mitigation was recommended and assessed chose not to exercise this option.

Table 1. Authorized impacts (ft²) by habitat type

Service Area	Habitat	Year Received					Total (ft ²)
		2009	2010	2011	2012	2013	
Central	Mud flat	16.00	32.00		81.00	26.00	155.00
	Open water					20.00	20.00
	Salt marsh		125.00			88.00	213.00
Central Total		16.00	157.00		81.00	134.00	388.00
North	Mud flat	2.00	200.00	1,250.00	55.00		1,507.00
	Open water	785.25	1,273.00	624.00	1,100.00		3,782.25
	SAV					364.75	364.75
North Total		787.25	1,473.00	1,874.00	1,155.00	364.75	5,654.00
South	Mud flat	300.00			150.00		450.00
	Open water			8,410.00	1,583.50	2,052.00	12,045.50
	SAV			425.50		17.40	442.90
South Total		300.00		8,835.50	1,733.50	2,069.40	12,938.40
Grand Total		1,103.25	1,630.00	10,709.50	2,969.50	2,568.15	18,980.40

Table 2. ILFP Deposit Summary

Service Area	Habitat	Town/Watershed	Permit Number	Payment Rcvd Date	Area of Impact (sq ft)	Project Year						Grand Total
						2008	2009	2010	2011	2012	2013	
Central	Mud flat	Duxbury	2008-3219	1/29/2010	20		\$400.00					\$400.00
			2008-3220	4/20/2010	12		\$240.00				\$240.00	
			2008-3485	9/22/2011	20		\$400.00				\$400.00	
			2008-3490	5/11/2009	16		\$160.00				\$160.00	
			2011-00670	7/13/2011	26				\$520.00		\$520.00	
	Plymouth	2004-00364	10/22/2012	61					\$1,220.00		\$1,220.00	
	Open water	Duxbury	2012-02680	1/28/2013	20						\$200.00	\$200.00
	Salt marsh	Duxbury	2008-3220	4/20/2010	125		\$2,500.00					\$2,500.00
2011-00670			7/13/2011	88				\$1,760.00			\$1,760.00	
Central Total							\$3,700.00		\$2,280.00	\$1,220.00	\$200.00	\$7,400.00
North	Mud flat	Rockport	2009-709	4/6/2010	200		\$4,000.00					\$4,000.00
		Salem	2007-2786	11/9/2009	2		\$150.00					\$150.00
		Saugus	1984-00335	1/24/2012	55					\$1,100.00		\$1,100.00
		Somerville	2009-2702	11/14/2011	1250			\$25,000.00				\$25,000.00
	Open water	Beverly	2010-1995	1/6/2011	80			\$800.00				\$800.00
		Chelsea	2011-00807	3/20/2012	1100					\$11,000.00		\$11,000.00
		Danvers, Crane River	2009-2418	1/31/2011	544				\$5,400.00			\$5,400.00
		Newburyport	2009-1427	10/26/2009	35		\$352.50					\$352.50
		Salem	2008-3223	5/12/2010	1273		\$12,730.00					\$12,730.00
		Weymouth, Fore River	2008-2574	1/6/2009	750	\$7,500.00						\$7,500.00
SAV	Marblehead	2013-00126	6/3/2013	365				\$10,942.50			\$10,942.50	
North Total						\$7,500.00	\$17,232.50	\$25,800.00	\$16,342.50	\$12,100.00		\$78,975.00
South	Mud flat	Dartmouth	2012-00764	7/23/2012	150					\$3,000.00		\$3,000.00
		Harwich	2007-2548	5/20/2009	300		\$6,000.00					\$6,000.00
	Open water	Dartmouth	2012-00764	7/24/2012	968					\$9,675.00		\$9,675.00
		Fairhaven	2009-2273	1/31/2011	459		\$4,590.00					\$4,590.00
		New Bedford	2005-2900	5/26/2011	7951				\$79,510.00			\$79,510.00
		Somerset	2007-3044	11/22/2011	2052						\$20,520.00	\$20,520.00
		Yarmouth	2009-399	3/9/2012	616		\$6,160.00					\$6,160.00
	SAV	Marion	2010-02451	3/18/2011	426				\$12,765.00			\$12,765.00
			2012-02581	1/11/2013	11						\$330.00	\$330.00
		Mattapoisett	2010-01158	4/19/2013	6						\$192.00	\$192.00
South Total							\$16,750.00		\$92,275.00	\$12,675.00	\$21,042.00	\$142,742.00
Grand Total						\$7,500.00	\$37,682.50	\$25,800.00	\$110,897.50	\$25,995.00	\$21,242.00	\$229,117.00

Table 3. Financial Accounting

		Total Income	Payment Amount	Running Account Balance
ILF Funds Received (2008 -2013)		\$ 229,117.00		\$ 229,117.00
Administrative Fee (12%)			\$ 27,494.04	\$ 201,622.96
Funded Projects:				
	1. Off Billington St. Dam removal		\$ 128,202.00	\$ (73,420.96)
	2. Rough meadows		\$ 14,704.00	\$ (58,716.96)
	3. Great Marsh		\$ 23,800.00	\$ (34,916.96)
	4. Draka Dam (partial funding)		\$ 34,916.96	\$ (0.00)
Total for Funded Projects			\$ 201,622.96	\$ (201,622.96)

Table 4. ILFP Payments Assessed and Used by Permittee

Year of payment receipt	Region	Habitat type	Number of habitat impacts	Area of habitat impact (ft ²)	Sum of fee amount
2009	North	Mud flat	1	2	\$150.00
2009	North	Open water	2	785.25	\$7,852.50
2010	North	Mud flat	1	200	\$4,000.00
2010	North	Open water	1	1273	\$12,730.00
2011	North	Mud flat	1	1250	\$25,000.00
2011	North	Open water	2	624	\$6,200.00
2012	North	Mud Flat	1	55	\$1,100.00
2012	North	Open water	1	1100	\$11,000.00
2013	North	SAV	1	364.75	\$10,942.50
2009	Central	Mud flat	1	16.00	\$160.00
2010	Central	Mud flat	2	32.00	\$640.00
2010	Central	Salt marsh	1	125.00	\$2,500.00
2012	Central	Mud flat	1	20	\$400.00
2012	Central	Mud flat	1	61.00	\$1,220.00
2013	Central	Salt Marsh	1	88.00	\$1,760.00
2013	Central	Mud Flat	1	26.00	\$520.00
2013	Central	Open Water	1	20.00	\$200.00
2009	South	Mud flat	1	300	\$6,000.00
2011	South	Open water	2	8410	\$84,100.00
2011	South	SAV	1	425.5	\$12,765.00
2012	South	Mud flat	1	150	\$3,000.00
2012	South	Open water	2	1583.5	\$15,835.00
2013	South	SAV	2	17.00	\$522.00
2013	South	Open Water	1	2052.00	\$20,520.00
Total			30	18980.00	\$229,117.00
Average				790.83	\$9,546.54
By Region		North	11	5654.00	\$78,975.00
		Central	9	388.00	\$7,400.00
		South	11	12938.00	\$142,742.00
By Year		2009	5	1103.25	\$14,162.50
		2010	5	1630.00	\$19,870.00
		2011	6	10709.50	\$128,065.00
		2012	7	2969.50	\$31,335.00
		2013	6	2,567.75	\$34,464.50
By Habitat Type		Mudflat	13	2200.00	\$43,950
		Open water	12	15847.75	\$158,438
		Salt marsh	2	213.00	\$4,260
		SAV	4	807.25	\$24,230

*Three projects impacted 2 habitat types. As such, there are 30 habitat impacts but only 27 projects in total.

Table 5. ILFP Payments Assessed and Not Used by Permittee

Year Permitted	Region	ACOE Permit #	Habitat Type	Number of habitat impacts	Area of Impact (ft ²)	Sum of fee amounts
2009	Central	2009-2325	Mud Flat	1	1,976	\$39,520.00
	South	2006-2842	Mud Flat	1	145	\$2,900.00
	South	2009-1429	Mud Flat	1	2,560	\$51,200.00
	South	2005-01682	Mud Flat	1	16,165	\$194,450.00
	South	2009-205	Open Water	1	130	\$1,300.00
2012	North	2011-00106	Mud Flat	1	825	\$16,500.00
	North	2011-00106	Open Water	1	526	\$5,260.00
	North	2012-01142	Mud Flat	1	610	\$12,200.00
2013	South	2009-02719	Open Water	1	7,608	\$76,080.00
	South	2009-02720	Mud Flat	1	3,407	\$70,540.00
Total				10	33,952	\$469,950.00
Average					3,407	\$46,995.00
By Region			North	3	1,961	\$33,960.00
			Central	1	1,976	\$39,520.00
			South	6	30,015	\$396,470.00
By Year			2009	5	20,976	\$289,370.00
			2012	3	1,961	\$33,960.00
			2013	2	11,015	\$146,620.00
By Habitat Type			Mud Flat	7	25,688	\$387,310.00
			Open Water	3	8,264	\$82,640.00

B. Summary of the Mitigation Projects Funded by the DMF ILFP

DMF allocated the total amount ILFP payments made to its ILFP to fund four (4) mitigation projects that DMF selected through a Request for Proposals (RFP) process initiated in September 2012. Below is a summary description of these ILFP-funded mitigation projects.

Project 1. Off Billington Street Dam Removal Project – Plymouth

The Town of Plymouth was awarded \$128,202.00 in ILFP funds to facilitate the removal of the Off Billington Street Dam. The structure was replaced with an arch bridge. In order to improve water quality, contaminated sediment from behind the dam was removed. The completed mitigation project provides unimpeded fish passage for alewife, blueback herring, and American eel and is part of a larger comprehensive approach to restoring the historic anadromous fish run at Town Brook, eventually re-establishing river herring access to 269 acres of spawning habitat once all phases of the project are completed. The project also opened up an additional 400 linear feet of stream habitat at a total estimated cost of almost \$1.5 million dollars. Specifically, the ILFP funding contribution to the project was used to vegetate the exposed stream banks once the impoundment behind the dam was drained. A detailed report outlining work activities completed to date entitled "Off-Bilington Street Final Report" was received by DMF on October 9, 2014.

Credit Ledger Summary (Last Transaction 12/20/2012)

Name	Available Credits	Withdrawn Credits	Released Credits	Potential Credits
Stream				
<u>Stream/River - Reestablishment</u>	0	0	0	7.4

Project 2. Rough Meadows - Rowley

The Massachusetts Audubon Society (MAS) was awarded \$14,704.00 in ILFP funds for a mitigation project that contributed to the restoration of salt marsh and immediately adjacent brackish marsh at Rough Meadows Wildlife Sanctuary in Rowley, Massachusetts. This funding will be used over a three-year period for treatments necessary to accomplish the eradication or near eradication of targeted common reed (*Phragmites*) stands. Successful implementation will result in the restoration of approximately 5.5 acres of marsh habitat and reduce the likelihood of the spread of common reed to additional areas. Elimination of the targeted common reed colonies will improve marsh ecosystem health and reduce the spread of common reed as the result of disturbance associated with climate change and coastal alterations throughout the region. In addition, the control of common reed should facilitate the migration of salt marsh as sea level rises as predicted by climate change models.

According to an October 2013 project status report, the Rough Meadows Sanctuary was explored on foot to locate and map all common reed stands present in May 2013. Twenty-seven stands, ranging in size from 0.01 to 2.91 acres, were located and mapped. The total mapped area of common reed was 15.05 acres, exceeding the 5.5-acre estimate of the area of common reed present

identified in MAS' application for a grant from the ILFP. MAS estimates that approximately 9 acres of salt marsh habitat at Rough Meadows Wildlife Sanctuary will be restored using the ILFP funds.

All stands were revisited in spring 2014 to obtain a preliminary assessment of the success of the 2013 herbicide treatment. Vegetation monitoring quadrats were randomly located in several areas where the common reed was present prior to the 2013 treatment to quantitatively document the colonization of these areas by native plant species. Quadrats will be revisited annually to track vegetation changes, and follow-up herbicide treatments will be performed in September 2014 as needed. A detailed report outlining work activities completed to date entitled "Rough Meadows WS Phragmites Control Report 10.14" was received by DMF on November 5, 2014.

Credit Ledger Summary (Last Transaction 12/20/2012)

Name	Available Credits	Withdrawn Credits	Released Credits	Potential Credits
Wetland				
<u>E2EM</u>	0	0	0	.97

E2EM = Salt marsh

Project 3. Upper Great Marsh – Newbury

The Merrimack Valley Planning Commission (MVPC) was awarded \$23,800.00 in ILFP funds for a *Phragmites* control project located in the Upper Great Marsh in Newbury. The goal of this mitigation project is to return a large section (approximately 1,000 acres) of the northern end of the Great Marsh in Plum Island Sound to a healthy, natural state. As *Phragmites* is removed from the open, high marsh, native vegetation is expected to naturally re-colonize these areas, and the natural functions of the marsh, that have been impaired by the invasive monocultural growth, the vegetative, benthic, finfish, shellfish, and avian diversity is expected to return.

In a November 2013 project report, MVPC noted that a preliminary monitoring survey of an approximately 600-acre study area occurred in May 2013 to determine the extent and status of *Phragmites* in the 2013 treatment area. The 2013 treatment area coincides with the areas previously mapped and treated in 2012. Newly mapped stands in the open marsh were treated in late September, 2013. Preliminary visual post-monitoring in the months of September and October 2013 indicated a successful kill of treated *Phragmites* stands over an approximately 30-acre area. A detailed report outlining work activities completed to date entitled Upper Great Marsh -" DMF ILF Final Report" was received by DMF in November 2013.

Credit Ledger Summary (Last Transaction 12/20/2012)

Name	Available Credits	Withdrawn Credits	Released Credits	Potential Credits
Wetland				
<u>E2</u>	0	0	0	3

E2 = Estuarine Fringed

Project 4. Draka Dam Fish Passage – Three mile River, Taunton

The DMF Diadromous Fish Project was awarded partial ILFP funding (\$34,916.96) to help restore diadromous fish passage on the Three Mile River. The goal of this mitigation project is to provide spawning access for river herring to Mount Hope Pond by installing a fishway at the Draka Dam, which will restore the historic connection between the Taunton River and Narragansett Bay. This will allow diadromous fish to reach approximately 45 acres of spawning and nursery habitat upstream of the Draka Dam in Mount Hope Pond. Significant progress has been made on this project this year. The Massachusetts Environmental Trust separately provided \$40,000 in funding to Save the Bay request to construct the fish ladder. All permits, except the Office of Dam Safety authorization, have been secured. Construction work is scheduled to begin in the spring of 2015.