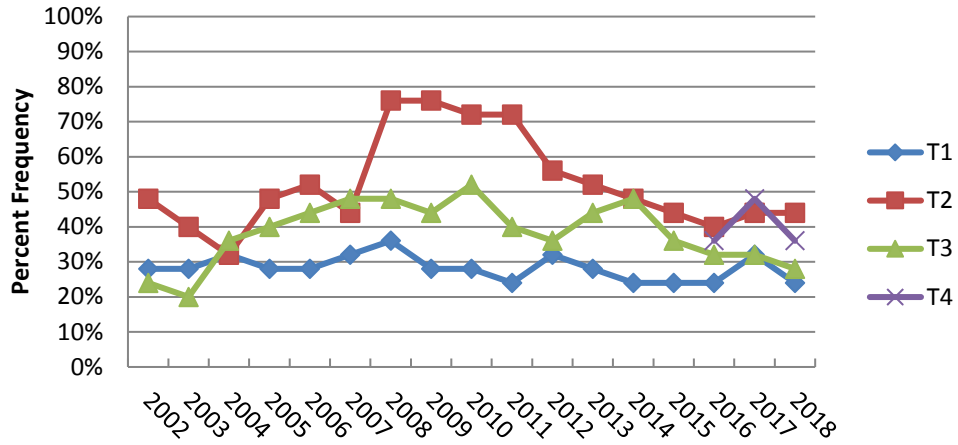
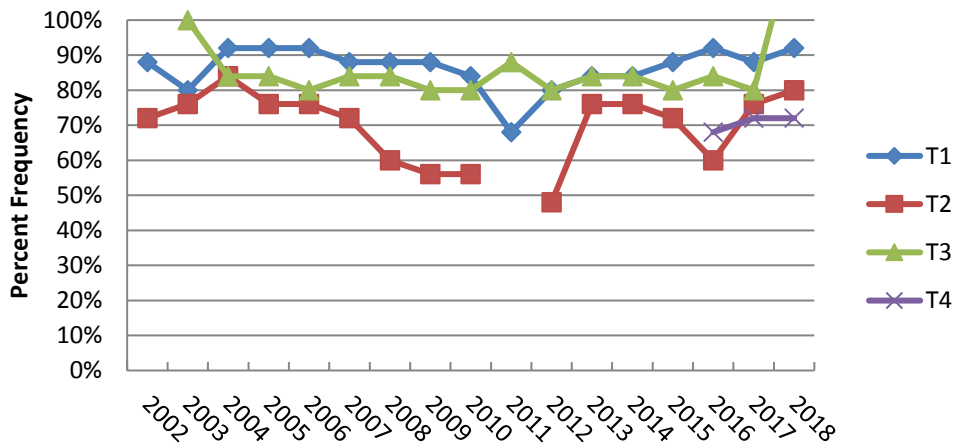


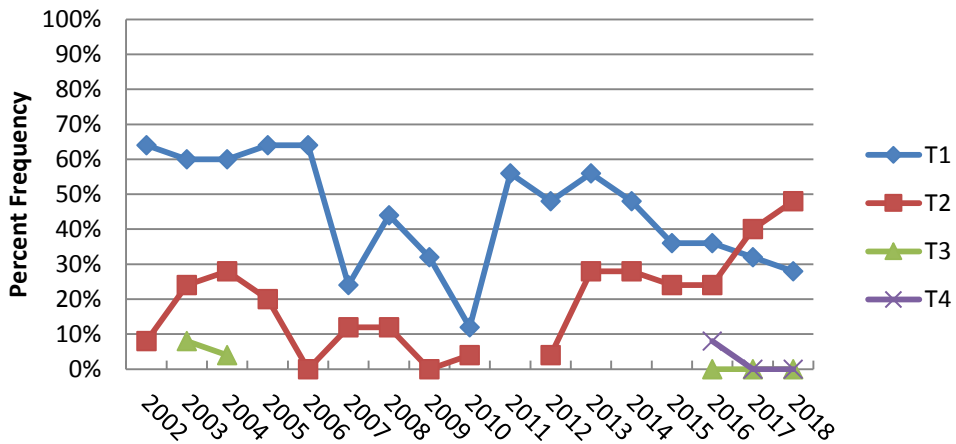
Phragmites Sale



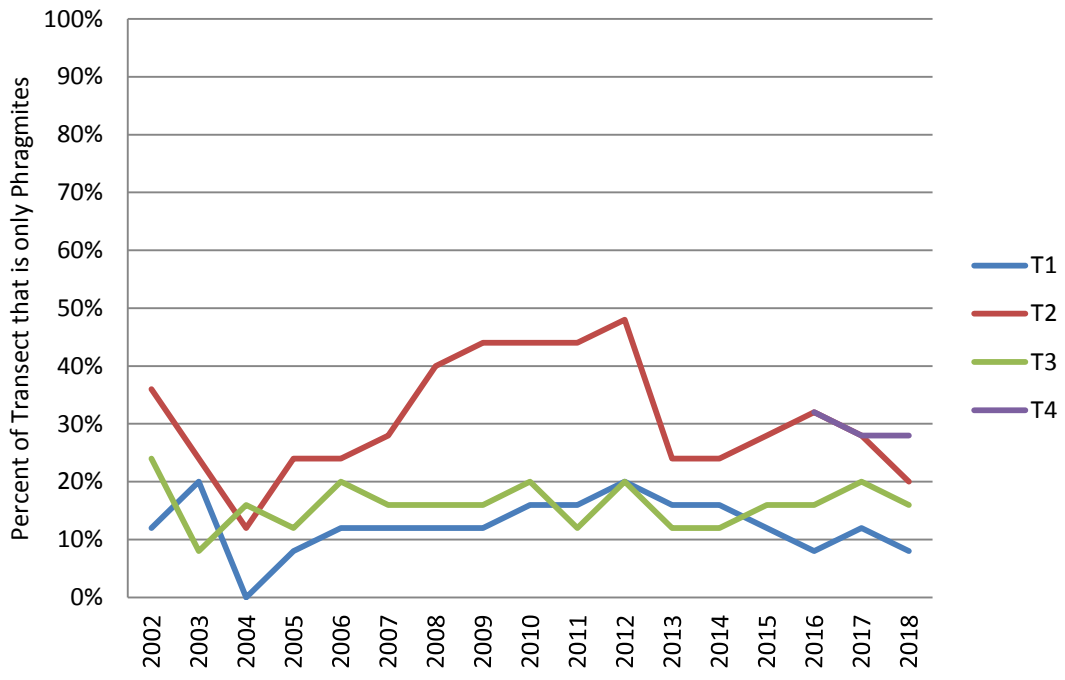
Salt Marsh Hay Sale



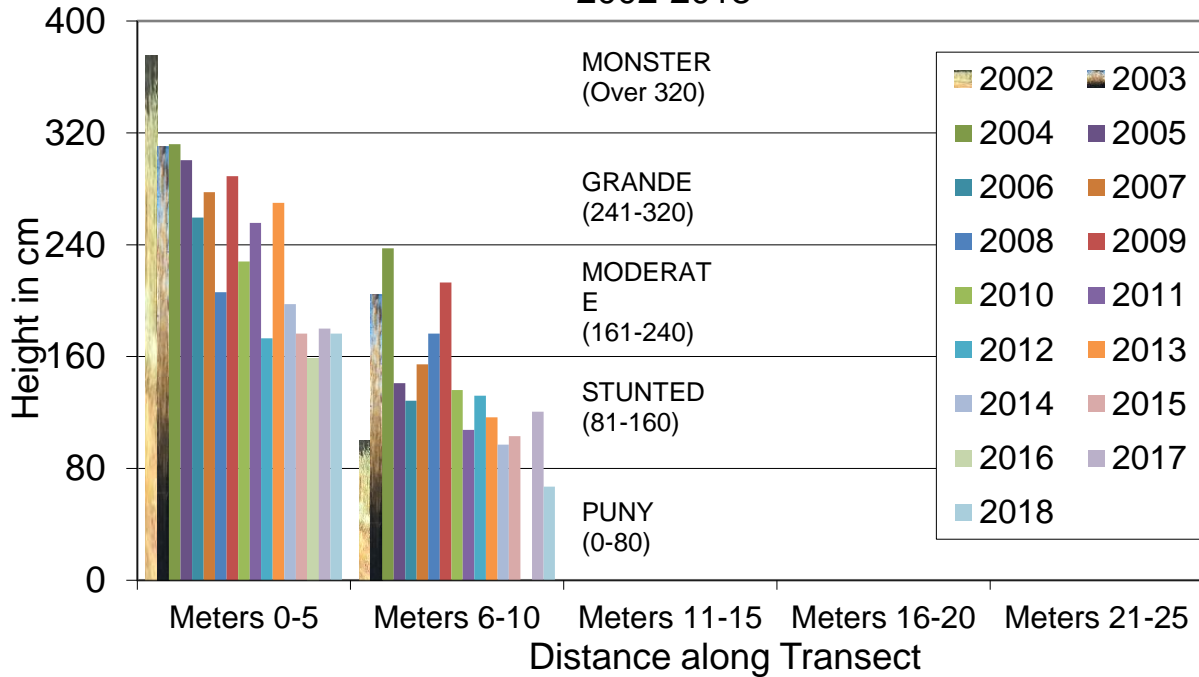
Cordgrass Sale



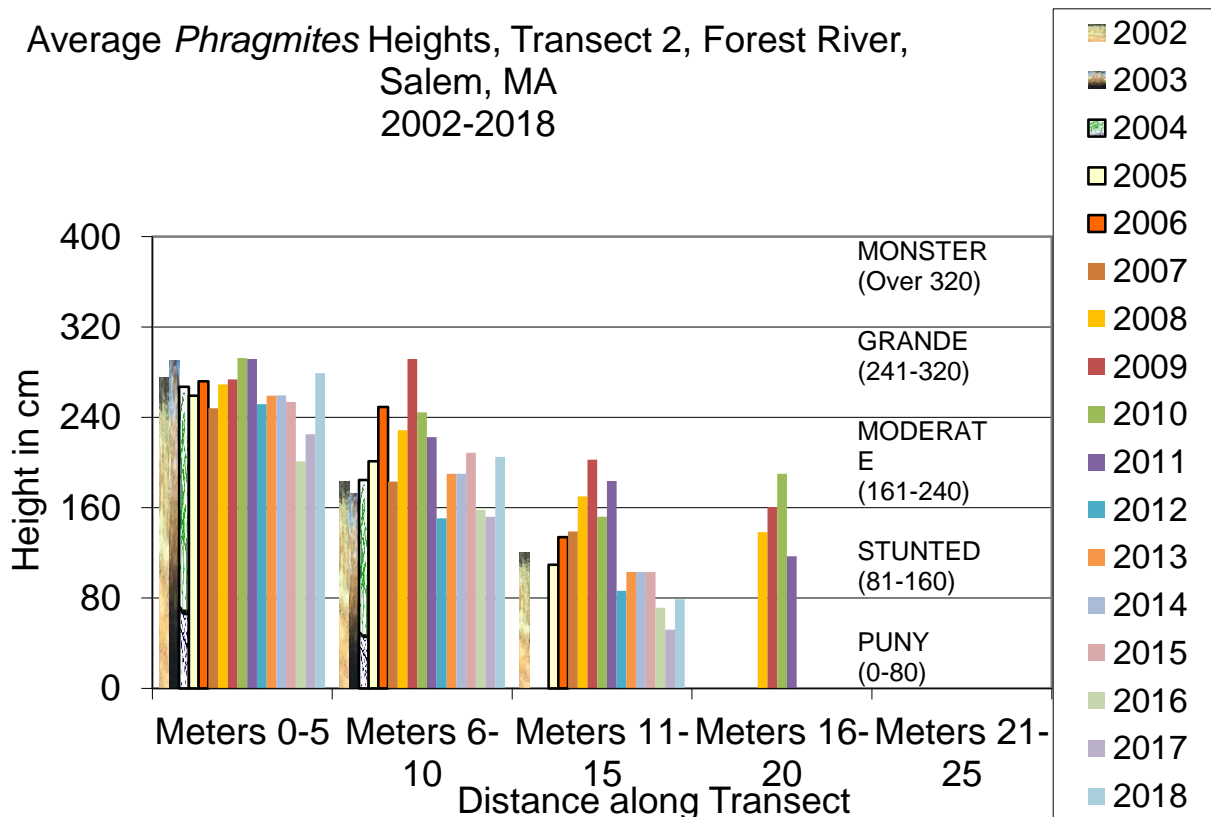
% Phragmites Monoculture, Salem



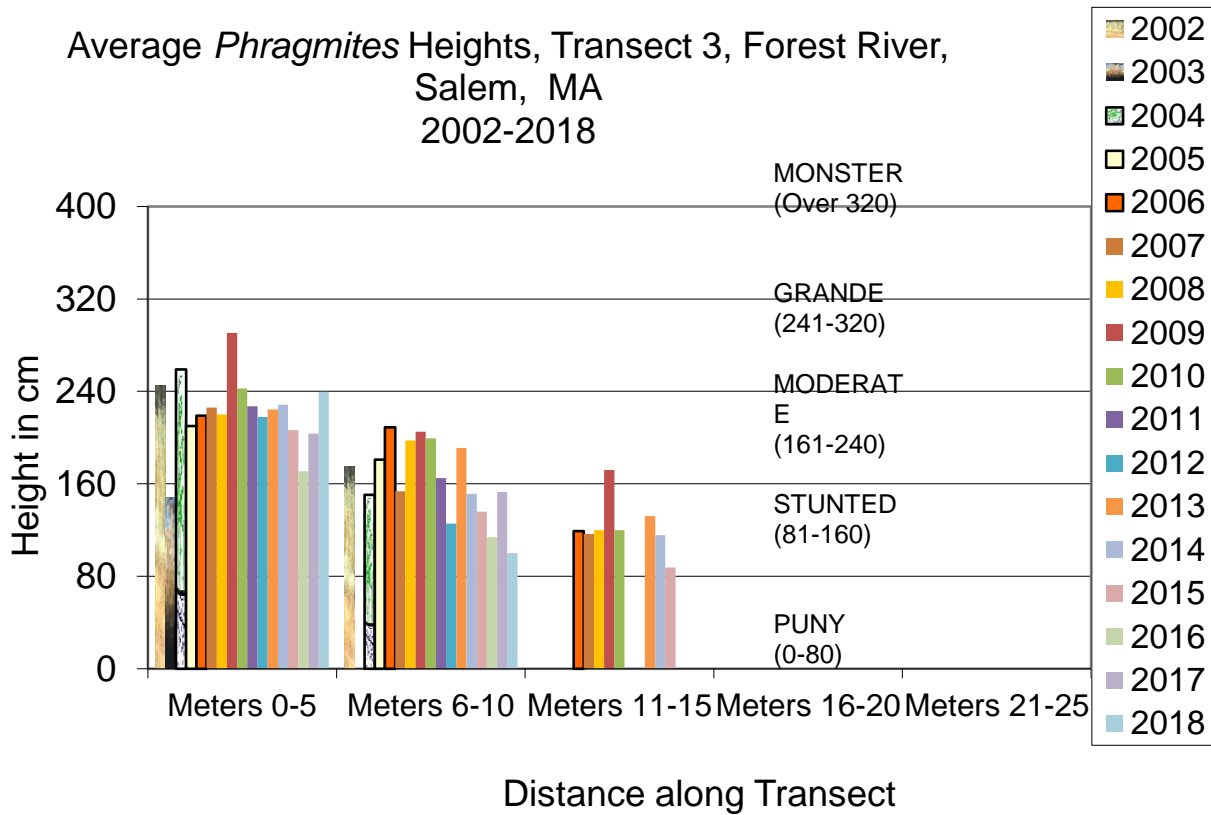
Average *Phragmites* Heights, Transect 1, Forest River, Salem, MA 2002-2018



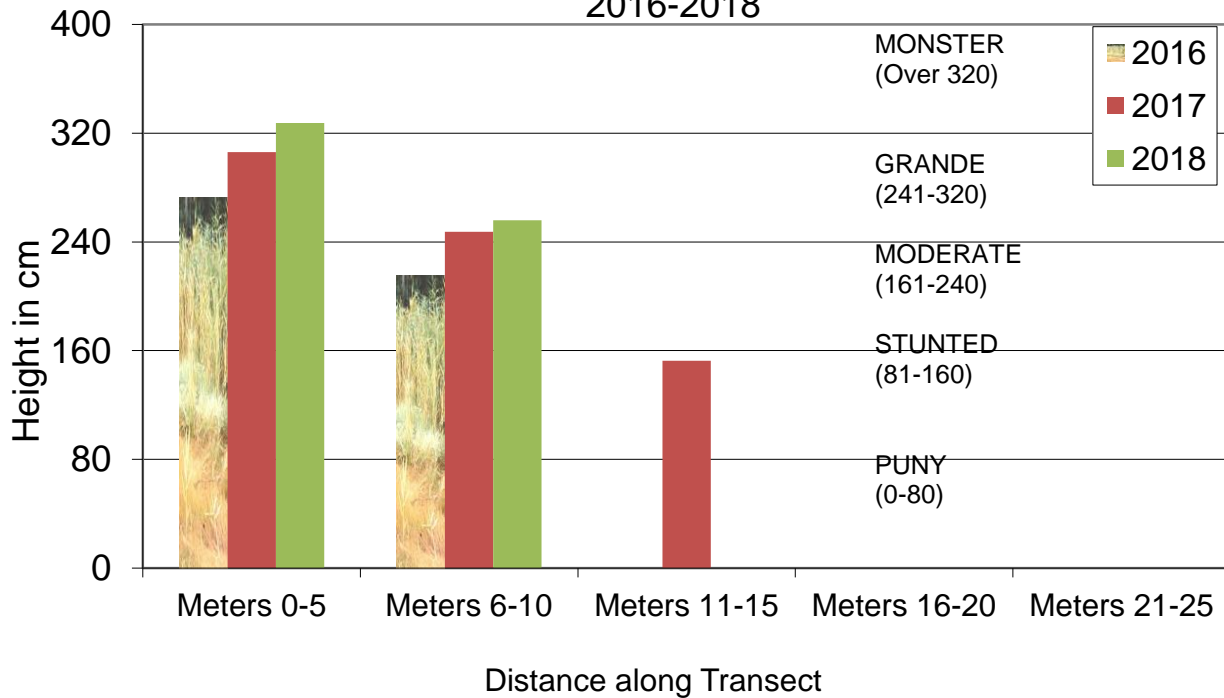
Average *Phragmites* Heights, Transect 2, Forest River, Salem, MA 2002-2018



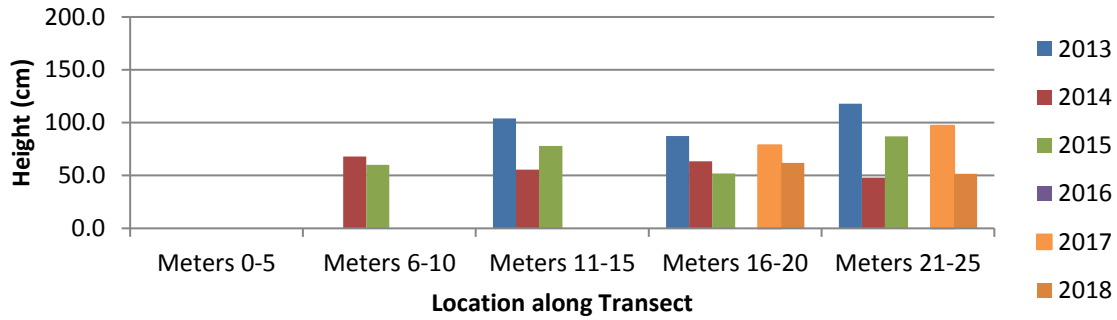
Average *Phragmites* Heights, Transect 3, Forest River, Salem, MA 2002-2018



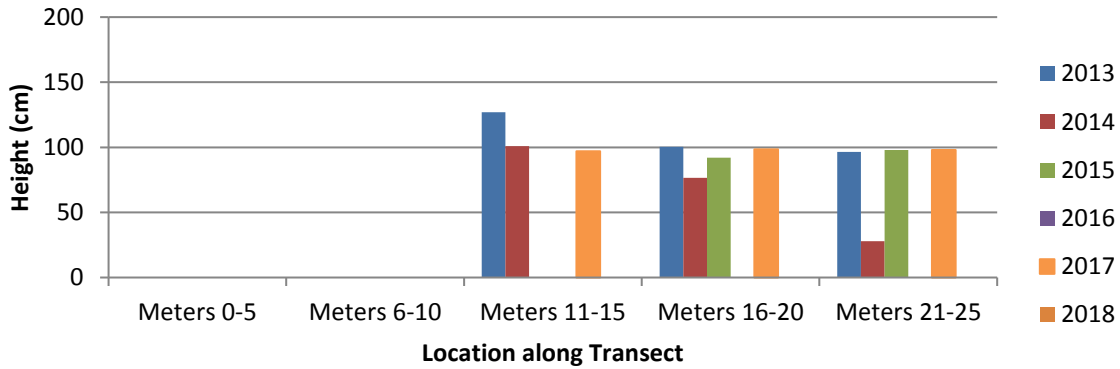
Average *Phragmites* Heights, Transect 4, Forest River, Salem, MA 2016-2018



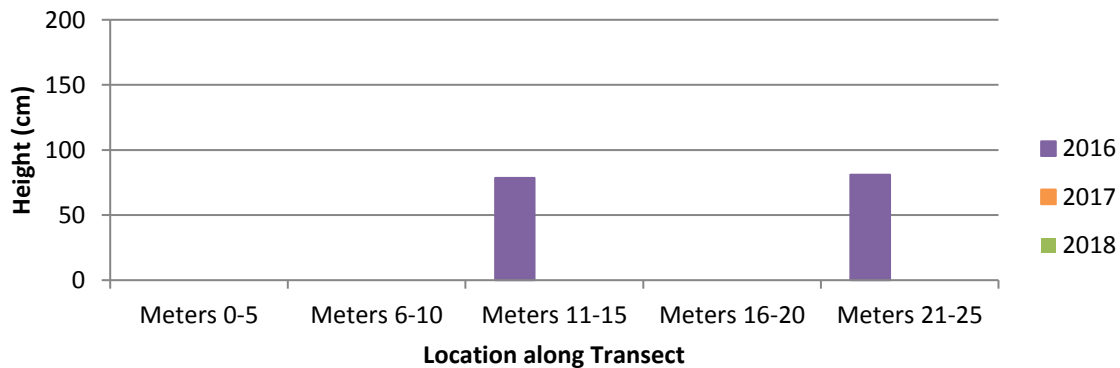
Cordgrass Heights Forest River, Salem Transect 1



Cordgrass Heights Forest River, Salem Transect 2



Cordgrass Heights Forest River, Salem Transect 4



Salt Marsh Hay	2002						1	1	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	1	1	1	1	22	
	2003						1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
	2004				1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
	2005						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
	2006						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
	2007				1	1	1	?	?	?	?		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
	2008											1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
	Transect 2 Forest River	2009											1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
		2010											1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
		2012											1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	12
2013												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	
2014												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	
2015												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	
2016												1					1	1	1	1	1	1	1	1	1	1	1	15	
2017												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	
2018												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	
2019												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	
Orach	2002																											0	
	2003																											0	
	<i>Atriplex patula</i>	2004													1											1			2
		2005																										1	1
		2006																											0
		2007																											0
		2008															1				1								2
		2009																											0
		2010																											0
		2012																											0
2013																												0	
Glasswort		2002																											0
	2003																											0	
	<i>Salicornia europaea</i>	2004												1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
		2005												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
		2006																											0
		2007																											0
		2008																									1	1	4
		2009																											0
		2010																									1	1	2
		2012																											1
2013																											1	6	
2014																												1	
2015																											0		
2016																											1		
2017																											2		
2018																											3		
2019																											0		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
 upland end 1 METER SEGMENTS marsh end

		1 METER SEGMENTS																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
		upland end																									marsh end	
Salt Marsh Hay <i>Spartina patens</i>	2002	No data collected																										
	2003	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
	2004					1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
	2005					1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
	2006					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2007					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
	2008					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
	2009					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2010					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2011					1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	26
	2012					1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	24
	2013					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
	2014					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
	2015					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
	2016					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
2017					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	
2018					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	
2019																											0	
Orach <i>Atriplex patula</i>	2002	No data collected																										
	2003																										0	
	2004																									1	1	
	2005																										0	
	Trensect 3 Forest River	2006																										0
		2007																							1	1		2
		2008																										0
		2009																										0
		2010																							1			1
		2011																										0
2012																											0	
2013																											0	
2014																										0		
2015																							1			1		
2016																										0		
2017																										0		
Marsh Elder <i>Iva frutescens</i>	2002	No data collected																										
	2003																										0	
	2004																									1	1	
	2005			1																							1	
	2006																										0	
	2007																										0	
	2008																										0	
	2009																										0	
	2010																										0	
	2011																										0	
2012																										0		
2013	1																									1		
2014	1	1																								2		
2015	1																									1		
2016																										0		
2017																										0		
Glasswort <i>Salicornia europaea</i>	2002	No data collected																										
	2003																										0	
	2004											1	1	1	1												4	
	2005									1	1	1								1							4	
	2006																										0	
	2007																				1						2	
	2008																								1		0	
	2009																										0	
	2010																										0	
	2011																										0	
	2012																										0	
2013																									1	2		
2014																										0		
2015																										0		
2016																										0		
2017																										1		
2018																						1	1			3		
2019																						1	1			0		

2016 Dunn & Students, Duff & Shain,
 2017 Drew and Gr. 7
 2018 Bland & Salem Academy

Location: Forest River, Salem

upland end

1 METER SEGMENTS

marsh end

**# of intervals
present in**

<u>SPECIES</u>	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
<i>Phragmites</i>	2016	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
<i>Phragmites australis</i>	2017	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
is immature	2018	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
	2019																										0
Spike Grass	2016										1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
<i>Distichlis spicata</i>	2017										1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
	2018									1						1	1							1	1	1	6
	2019																										0
Salt Marsh Cordgrass	2016														1											1	2
<i>Spartina alterniflora</i>	2017																										0
	2018																										0
	2019																										0
Salt Marsh Hay	2016								1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
<i>Spartina patens</i>	2017							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
	2018							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
	2019																										0

upland end

1 METER SEGMENTS

marsh end