

# This presentation premiered at WaterSmart Innovations

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# Turf Conversion Benefits: How They Relate to Water Conservation



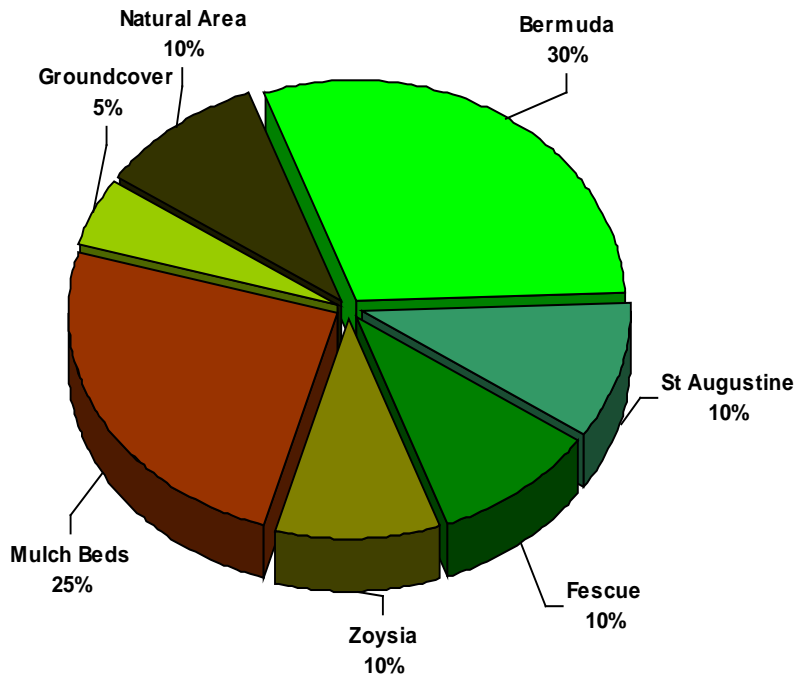
Will Pescara, CLIA, FWSAP  
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MAA – Coastal Division



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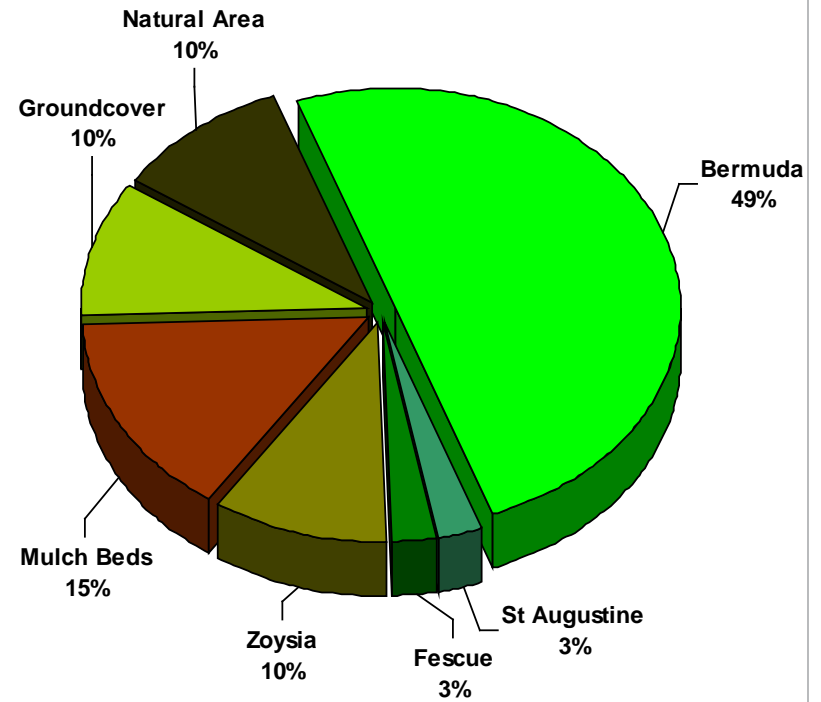
# Turf Conversion Benefits

**2011**



**Total 735 M.G.**

**2021**



**Total 557 M.G.**



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# Turf Conversion Benefits

<b>2011 Water Requirements</b>			
	<b>Gal/Acre</b>	<b>Irr Acres</b>	<b>Gal/Yr</b>
<b>Fescue</b>	5.5M	70	385M
<b>St Aug</b>	1.4M	70	98M
<b>Bermuda</b>	1.2M	210	252M
<b>Total</b>			<b>735M</b>

<b>2021 Water Requirements</b>			
	<b>Gal/Acre</b>	<b>Irr Acres</b>	<b>Gal/Yr</b>
<b>Fescue</b>	5.5M	21	116M
<b>St Aug</b>	1.4M	21	29M
<b>Bermuda</b>	1.2M	343	412M
<b>Total</b>			<b>557M</b>

## **2012 Performance Improvement Drivers:**

### **Turf Conversion Project:**

- Isolating the highest water demand turf species, converting them to other vegetative uses that allow for reduced irr needs
  - Projects are assessed by property starting with highest water costs, longest growing season and curb appeal need
  - Projects will be evaluated and cataloged to ensure long term success



# Turf Conversion Benefits

## Case Study – Copper Ridge Roanoke, TX

	<b>Acres</b>	<b>Irrigation Water Cost (Per Gallon)</b>	<b>Annual Gallons Per Acre</b>	<b>Total Water Cost</b>
<b>Copper Ridge</b>				
<b>Total Acres</b>	6			
<b>Turf Acres</b>	3.9	0.0054	637,500	\$13,425.75
<b>Shrub/ Groundcover Acres</b>	2.1	0.0054	175,320	\$1,988.13
<b>Total Cost</b>				\$15,413.88

\*Data per 2012 costs and measurements



# Turf Conversion Benefits

## Case Study – Copper Ridge Roanoke, TX

	Acres	Irrigation Water Cost (Per Gallon)	Annual Gallons Per Acre	Total Water Cost
<b>Copper Ridge</b>				
<b>Year 1 of Conversion</b>				
<i>Half Acre Turf Conversion</i>				
Established Turf	3.4	0.0054	637,500	\$11,704.50
Established Shrubs/ G.C.	2.1	0.0054	175,320	\$1,988.13
Install G.C.	0.5	0.0054	701,250	\$1,893.38
<b>Capital Cost for Install (\$30,000)</b>				
<b>Total Cost</b>				<b>\$15,586.00</b>
<b>Year 2</b>				
<i>Half Acre Turf Conversion</i>				
Established Turf	2.9	0.0056	637,500	\$10,382.58
Established Shrubs/ G.C.	2.1	0.0056	175,320	\$2,067.65
Year 1 G.C.	0.5	0.0056	350,625	\$984.56
Install G.C.	0.5	0.0056	701,250	\$1,969.11
<b>Capital Cost for Install (\$30,000)</b>				
<b>Total Cost</b>				<b>\$15,403.90</b>

\*Data per 2012 costs and measurements



# Turf Conversion Benefits

## Case Study – Copper Ridge Roanoke, TX

	Acres	Irrigation Water Cost (Per Gallon)	Annual Gallons Per Acre	Total Water Cost
<b>Copper Ridge</b>				
<b>Year 3</b>				
Established Turf	2.9	0.0058	637,500	\$10,797.88
Established Shrubs/ G.C.	2.6	0.0058	175,320	\$2,662.35
Year 2 G.C.	0.5	0.0058	350,625	\$1,023.94
<b>Total Cost</b>				<b>\$14,484.17</b>
<b>Year 4</b>				
Established Turf	2.9	0.0061	637,500	\$11,229.80
Established Shrubs/ G.C.	3.1	0.0061	175,320	\$3,301.31
<b>Total Cost</b>				<b>\$14,531.11</b>
<b>Year 5</b>				
Established Turf	2.9	0.0063	637,500	\$11,678.99
Established Shrubs/ G.C.	3.1	0.0063	175,320	\$3,433.37
<b>Total Cost</b>				<b>\$15,112.36</b>

\*Data per 2012 costs and measurements



# Turf Conversion Benefits

## Irrigation Expense

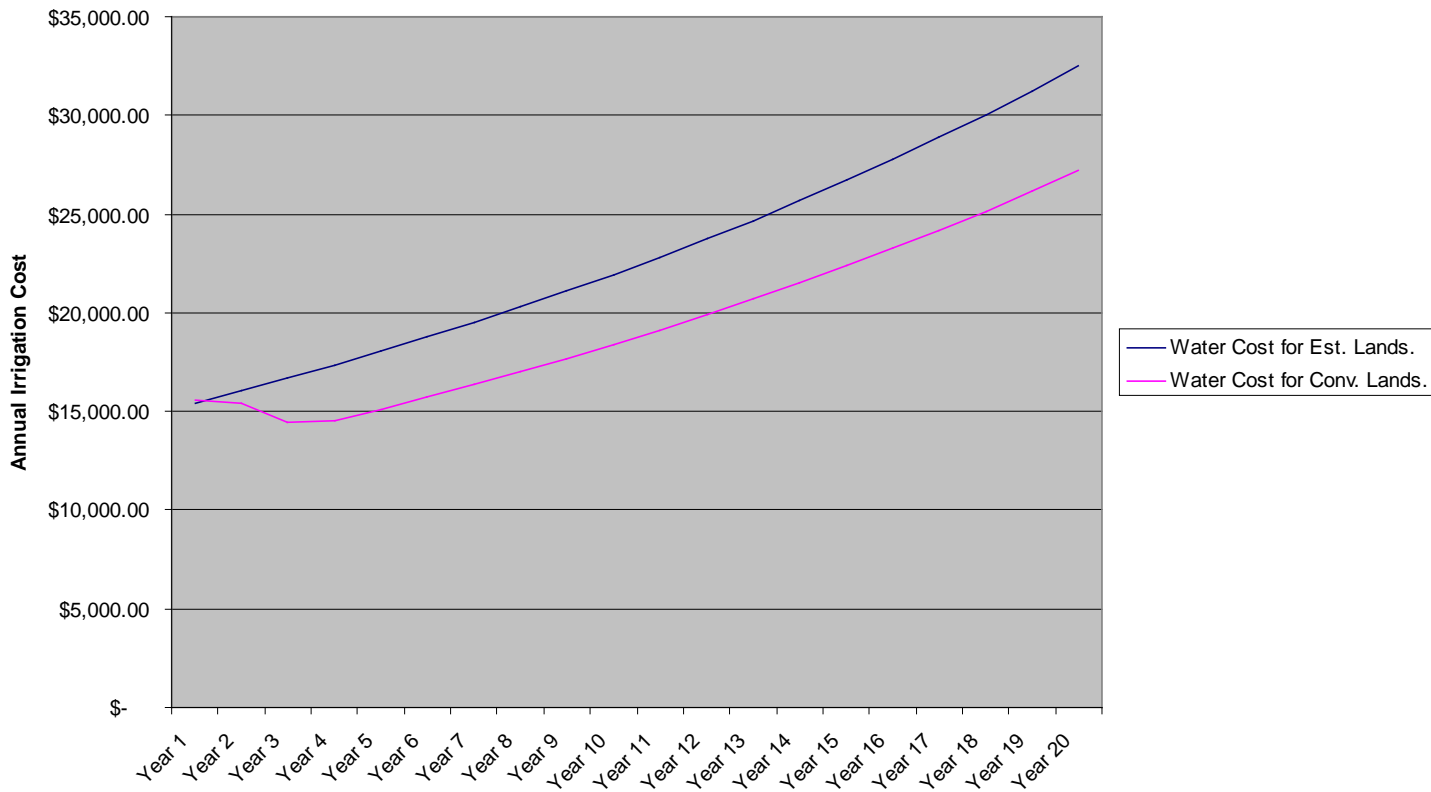
<u>Existing Landscape</u>	<u>Total Cost</u>	<u>Turf Conversion</u>	<u>Total Cost</u>	<u>Savings</u>
Year 1	\$ 15,413.88	Year 1	\$ 15,586.00	\$ (172.12)
Year 2	\$ 16,030.44	Year 2	\$ 15,403.90	\$ 626.54
Year 3	\$ 16,671.65	Year 3	\$ 14,484.17	\$ 2,187.48
Year 4	\$ 17,338.52	Year 4	\$ 14,531.11	\$ 2,807.41
Year 5	\$ 18,032.06	Year 5	\$ 15,112.36	\$ 2,919.70
Year 6	\$ 18,753.34	Year 6	\$ 15,716.85	\$ 3,036.49
Year 7	\$ 19,503.48	Year 7	\$ 16,345.53	\$ 3,157.95
Year 8	\$ 20,283.61	Year 8	\$ 16,999.35	\$ 3,284.26
Year 9	\$ 21,094.96	Year 9	\$ 17,679.32	\$ 3,415.64
Year 10	\$ 21,938.76	Year 10	\$ 18,386.50	\$ 3,552.26
Year 11	\$ 22,816.31	Year 11	\$ 19,121.96	\$ 3,694.35
Year 12	\$ 23,728.96	Year 12	\$ 19,886.83	\$ 3,842.13
Year 13	\$ 24,678.12	Year 13	\$ 20,682.31	\$ 3,995.81
Year 14	\$ 25,665.24	Year 14	\$ 21,509.60	\$ 4,155.64
Year 15	\$ 26,691.85	Year 15	\$ 22,369.98	\$ 4,321.87
Year 16	\$ 27,759.53	Year 16	\$ 23,264.78	\$ 4,494.74
Year 17	\$ 28,869.91	Year 17	\$ 24,195.38	\$ 4,674.53
Year 18	\$ 30,024.70	Year 18	\$ 25,163.19	\$ 4,861.51
Year 19	\$ 31,225.69	Year 19	\$ 26,169.72	\$ 5,055.97
Year 20	\$ 32,474.72	Year 20	\$ 27,216.51	\$ 5,258.21
<b>Total</b>	<b>\$ 458,995.73</b>		<b>\$ 389,825.36</b>	<b>\$ 69,170.37</b>





# Turf Conversion Benefits Irrigation Cost Comparison

Irrigation Cost Comparison Established Landscape Vs. Conversion Landscape



\* Data per 2012 costs and measurements Years



# Turf Conversion Benefits Total Expense

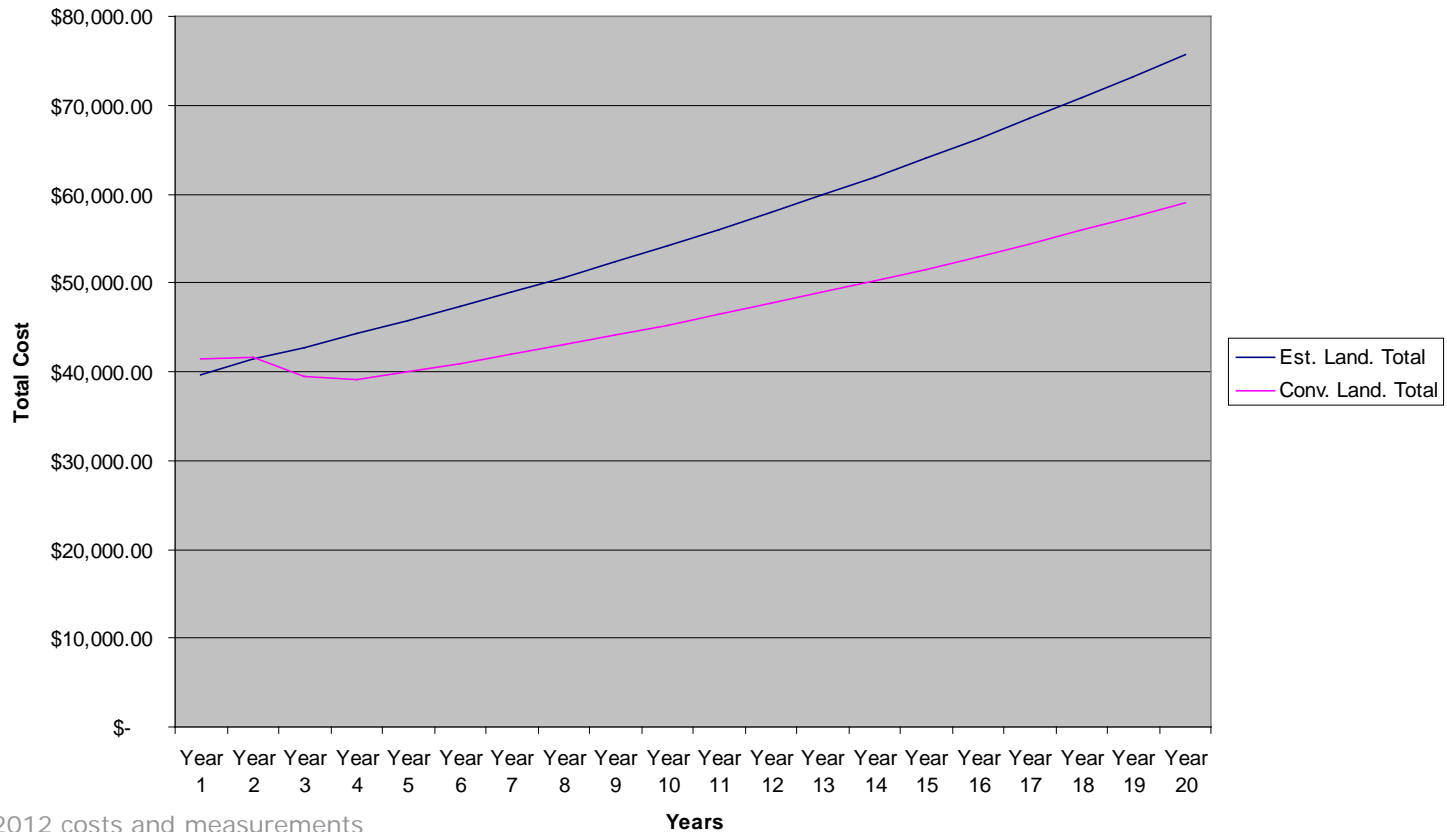
<u>Existing Landscape</u>	<u>Total Cost</u>	<u>Turf Conversion</u>	<u>Total Cost</u>	<u>Savings</u>
Year 1	\$ 39,578.18	Year 1	\$ 41,351.48	\$ (1,773.30)
Year 2	\$ 41,419.80	Year 2	\$ 41,615.22	\$ (195.42)
Year 3	\$ 42,735.77	Year 3	\$ 39,387.52	\$ 3,348.25
Year 4	\$ 44,322.59	Year 4	\$ 39,065.11	\$ 5,257.48
Year 5	\$ 45,825.66	Year 5	\$ 40,008.49	\$ 5,817.17
Year 6	\$ 47,380.75	Year 6	\$ 40,985.98	\$ 6,394.77
Year 7	\$ 48,989.70	Year 7	\$ 41,998.83	\$ 6,990.87
Year 8	\$ 50,654.43	Year 8	\$ 43,048.36	\$ 7,606.06
Year 9	\$ 52,376.90	Year 9	\$ 44,135.92	\$ 8,240.98
Year 10	\$ 54,159.15	Year 10	\$ 45,262.90	\$ 8,896.25
Year 11	\$ 56,003.31	Year 11	\$ 46,430.76	\$ 9,572.55
Year 12	\$ 57,911.58	Year 12	\$ 47,641.01	\$ 10,270.56
Year 13	\$ 59,886.21	Year 13	\$ 48,895.22	\$ 10,990.99
Year 14	\$ 61,929.58	Year 14	\$ 50,195.01	\$ 11,734.57
Year 15	\$ 64,044.12	Year 15	\$ 51,542.07	\$ 12,502.05
Year 16	\$ 66,232.36	Year 16	\$ 52,938.14	\$ 13,294.22
Year 17	\$ 68,496.93	Year 17	\$ 54,385.04	\$ 14,111.89
Year 18	\$ 70,840.54	Year 18	\$ 55,884.66	\$ 14,955.88
Year 19	\$ 73,266.00	Year 19	\$ 57,438.94	\$ 15,827.06
Year 20	\$ 75,776.24	Year 20	\$ 59,049.92	\$ 16,726.32
	\$ 1,121,829.80		\$ 941,260.60	\$ 180,569.21



# Turf Conversion Benefits

## Total Cost Comparison

Established Landscape Vs. Conversion Landscape Total Cost



\*Data per 2012 costs and measurements



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# Turf Conversion Benefits Examples





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# Turf Conversion Benefits Examples





# Turf Conversion Benefits Examples





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# Turf Conversion Benefits Examples





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# Turf Conversion Benefits Examples







# Turf Conversion Benefits Resources – Florida Waterwise

<http://publicserver2.sjrwmd.com/waterwise>

St. Johns River Water Management District

Home • Site map • Site support

floridaswater.com

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- About the District
- Governing Board
- News, meetings and notices
- Permitting
- Water conservation
- Water supply
- Water bodies, watersheds and storm water
- Agriculture
- Online tools, GIS, data
- Local governments
- Careers
- Recreation and land
- STEM and education
- Publications and videos
- Budget, procurement and financial information

## Water conservation

### Search for plants



This searchable plant database is designed to help you to determine which plants are most appropriate for your landscape given the natural growing conditions found in your yard. The plant details will help you select the optimal location for the plant where it would need minimal irrigation to thrive. In the box below, choose the options that suit your needs and a list will be provided with plants that meet your criteria. Refer to [frequently asked questions](#) if you need help using the tool.

### In this section

[Waterwise landscaping home](#)

[Planting for efficient water use](#)

Learn about plant groupings.

[A landscape example](#)

See water wise landscaping in action.

[Search for plants and photos](#)

Find the right plants for your landscape.

[Frequently asked questions](#)



# Turf Conversion Benefits

## Resources – Florida Waterwise

Common name:	<input type="text"/>	<input type="checkbox"/> Sounds like
Scientific name:	<input type="text"/>	<input type="checkbox"/> Sounds like
Plant type:	Ground covers ▼	
Hardiness zone (e.g 7a, 9b etc.):	<input type="text"/>	
Mature height in feet:	Less than / equal to ▼ <input type="text"/>	
Flower color:	--Please select-- ▼	
Soil moisture:	All ▼	
pH:	All ▼	
Light range:	All ▼	
Salt tolerance:	All ▼	
Growth rate:	All ▼	
Native:	All ▼	
No. of results per page:	15 ▼	



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# Turf Conversion Benefits

## Questions

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