

# LANDSCAPING IN THE AGE OF CLIMATE CHANGE

Prepared for the Ridgewood League of Women Voters by Y. Lee, March 2017

The [USDA Plant Hardiness Zone Map](#)<sup>1</sup> indicates which plants are most likely to thrive where you live. The map is based on the average annual minimum winter temperature. From [1990](#)<sup>2</sup> to [2012](#),<sup>3</sup> the zone for North Jersey changed to 7a from 6b, equal to [a half-zone warmer](#).<sup>4</sup> Our average coldest winter temperature has increased *5 degrees Fahrenheit* in two decades.

In recent summers Ridgewood has had to impose water restrictions, limiting irrigation. Our utility, Ridgewood Water, says about 14.5 million gallons daily are pumped from our source, the Brunswick aquifer. While winter water usage has declined to about 5 million to 6 million gallons a day, during the summer this surges to a daily 15 million to 18 million gallons—[a threefold increase](#)<sup>5</sup> during what utilities call “the growing season.”

A lush, green lawn and pretty landscaping surrounding a single-family house is the quintessential image promised by suburban life. But is this sustainable? While smart-sensor irrigation technology, tiered/peak water pricing, water use ordinances, and other incentives and restrictions [are all up for discussion](#),<sup>6</sup> here are five climate-sensitive tips for right now.

## 1. START WITH SOIL.

[Healthy soil](#)<sup>7</sup> not only provides nutrients for plants, it is also integral for absorbing, storing, and cleaning the water we eventually drink. Test soil to learn its pH and nutrients; knowing its acidity vs. alkalinity will inform the best plants to use and may avoid the need for fertilizers. The [Rutgers Soil Testing Laboratory](#)<sup>8</sup> offers a soil test kit online and testing is free. Feed your soil [nutrient-rich compost](#)<sup>9</sup> from kitchen scraps (which also [reduces yard waste](#)<sup>10</sup>), and use [lightly compacted mulch](#)<sup>11</sup> to protect roots, save water, reduce weeds, prevent erosion, and add organic matter and nutrients. Don't overlook [aerating soil](#).<sup>12</sup> Aerating opens air channels in the soil and improves the natural movement of water and air into the ground, promoting deeper root growth for grass.

## 2. GO NATIVE.

Native plants have a wide native range,<sup>13</sup> are adapted to our area, and as such will [thrive with little care](#).<sup>14</sup> Requiring no extra watering or chemicals, native plants conserve and filter storm water and protect soil health. [Invasive species compete](#)<sup>15</sup> for limited natural resources (soil, water, light), disrupt the delicately balanced ecosystem, and cause an overall reduction in native biodiversity. There are [many resources online](#)<sup>16 17</sup> for checking whether a plant (flower, tree, shrub) is an invasive species to our area, and if it is, native alternatives.

## 3. GET TO KNOW YOUR GRASS.

Reduce lawn irrigation by selecting drought-resistant grass species such as [tall fescues and fine fescues](#),<sup>18 19</sup> which require less nitrogen and water than Kentucky bluegrass and perennial ryegrass.<sup>20</sup> If replacing your entire lawn isn't feasible, [mow high](#)<sup>21</sup>—2.5 to 3 inches—and use a [mulching mower](#)<sup>22</sup> (electric or manual) whose clippings feed the soil.

## 4. BE WATER WISE.

Mosquito-proof [rain barrels](#)<sup>23</sup> capture nature's bounty for use later; downspouts need to be adjusted to fit the barrels. [Rain gardens](#)<sup>24</sup> create an area between gutter runoff and an impermeable surface, such as the driveway or street drain, to capture rain. Use [drip irrigation and soaker hoses](#)<sup>25</sup> to send water directly to the base of plants where it's needed. And if you

must irrigate your lawn, use [EPA-approved, smart-controller](#)<sup>26</sup> sprinkler systems. Acting like a thermometer for your lawn, [WaterSense-labeled](#)<sup>27</sup> controllers use water and soil sensors to detect water needs and prevent unnecessary watering. Older systems can be retrofitted.

## 5. TOSS TRADITION.

[Shrink or eliminate](#)<sup>28</sup> a high-maintenance lawn by using shrub borders, perennial flowerbeds, rain gardens, and other mixed native plantings such as [groundcover](#),<sup>29</sup> [Xeriscaping](#)<sup>30</sup> (dry landscaping), used in arid areas, has potential in North Jersey. The [creative use](#)<sup>31</sup> of [pervious ground](#)<sup>32</sup> combined with plants (such as perennials, ferns, shrubs, and trees) instead of turf conserves water, limits runoff, and looks [naturally beautiful](#).<sup>33</sup>

Remember that we are using precious, potable water to feed the fantasy of lush landscaping. Take steps to [reduce your use of water outdoors](#)<sup>34</sup> and you will [save money](#)<sup>35</sup> and time, cut noise and air pollution, reduce yard waste, and protect the water supply.

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<sup>1</sup> [USDA Plant Hardiness Zone Map](#)

<sup>2</sup> [Interactive USDA Gardening and Plant Hardiness Zone Map for New Jersey 1990.](#)

<sup>3</sup> [Interactive USDA Gardening and Plant Hardiness Zone Map for New Jersey 2012.](#)

<sup>4</sup> [USDA Plant Hardiness Zone Map 2012: What's New](#)

<sup>5</sup> O'Neill, James M. "[N.J. Utilities Look to Curb Spikes in Water Use.](#)" The Record, Jan. 2, 2017.

<sup>6</sup> Ibid.

<sup>7</sup> Jersey-Friendly Yards. "[Healthy Soils, Healthy Waters.](#)"

<sup>8</sup> Rutgers New Jersey Agricultural Experiment Station (NJAES). "[How To Have Your Soil Tested.](#)"

<sup>9</sup> Ibid. "[Compost and Compost Tea.](#)"

<sup>10</sup> U.S. Environmental Protection Agency (EPA). "[Composting at Home.](#)"

<sup>11</sup> Bromley, Barbara J. "[Mulch for the Home Grounds.](#)" Rutgers Master Gardeners of Mercer County, 2011.

<sup>12</sup> DiClerico, Daniel. "[How to Aerate Your Soil and Other Fall Lawn Care Tips.](#)" Consumer Reports, Oct. 7, 2016.

<sup>13</sup> "If you look at maps for specific plants on the USDA plant database, you will see that plants may have a wide native range." Feb. 12, 2017, email from NPSNJ, Bergen/Passaic chapter.

<sup>14</sup> Jersey-Friendly Yards. "[New Jersey Native Plants.](#)"

<sup>15</sup> National Park Service, U.S. Fish and Wildlife Service. "[Plant Invaders of Mid-Atlantic Natural Areas.](#)" 4th Ed., Nov. 11, 2010.

<sup>16</sup> Ibid.

<sup>17</sup> [The Native Plant Society of New Jersey \(NPSNJ\).](#)

<sup>18</sup> New Jersey Water Savers. "[Select the Appropriate Variety of Grass.](#)"

<sup>19</sup> Clean Waters. "[Lawn Care the Environmentally Friendly Way](#)" (pp. 1-2). June 2000.

<sup>20</sup> "Most common lawn grasses, including fescues, are not native. Native grasses tend to be clump-forming rather than spreading, [which are] more suitable to lawns." Feb. 12, 2017, email from NPSNJ, Bergen/Passaic chapter.

<sup>21</sup> New Jersey Water Savers. "[Mowing at the Correct Height Is Important to Maintaining a Healthy Lawn.](#)"

<sup>22</sup> Ibid.

<sup>23</sup> Rutgers NJAES. "[Projects & Programs—Rain Gardens & Rain Barrels.](#)"

<sup>24</sup> Jersey-Friendly Yards. "[Rain Gardens.](#)"

<sup>25</sup> Jersey-Friendly Yards. "[Water Wisely.](#)"

<sup>26</sup> Environmental Protection Agency (EPA). "[Irrigation Controllers Fact Sheet.](#)" February 2013.

<sup>27</sup> EPA. "[WaterSense-Labeled Irrigation Controllers.](#)" Includes link to searchable database.

<sup>28</sup> Jersey-Friendly Yards. "[Reduce Lawn Size.](#)"

<sup>29</sup> Martens, Julie A. "[Replacing Your Lawn With Landscaping.](#)" DIY Network.

<sup>30</sup> U.S. Department of Energy. "[Landscaping Water Conservation.](#)"

<sup>31</sup> Forney, Julie Martens. "[Xeriscape Design Ideas.](#)" HGTV.

<sup>32</sup> Mother Earth News. "[How Can Pervious Pavement Reduce Nutrient Pollution?](#)" June 4, 2012.

<sup>33</sup> Jersey-Friendly Lawns. "[A Yard Overhaul With Natives and Non-Natives.](#)"

<sup>34</sup> Donohue, Steve. "[GreenScapes: Environmentally Beneficial Landscaping.](#)" EPA.

<sup>35</sup> New Jersey Water Savers. "[Saving Water Is Saving Money—Inside and Outside the Home!](#)"