

## Drew University and the Forest: A Production Engine for Morris County

Drew University and the Drew Forest are powerful contributors to Morris County's economy and the health and well-being of residents.

By preserving Drew Forest, **we can sustain this vitality -- including hundreds of high-quality University jobs and upward-mobility for thousands of young people – while also protecting the significant environmental benefits we enjoy.** A true Win-Win.

### The University

Drew's call to action is "[Find your purpose. Forge your path. Launch your future.](#)" *US News* ranks Drew #32 in the entire United States in providing [Upward Social Mobility](#).

Areas with universities have outpaced areas without universities in recent decades. One recent [article](#), titled "How Universities Make Cities Great," states, "[E]ven a modest college in a small town can create a pleasant environment that draws in locals from surrounding areas, channels government spending to an area and increases the education of the local workforce." Drew is much more than this.

Smart community support is needed because student demographics and other challenges are putting significant financial pressure on small universities like Drew. Articles linked [here](#), [here](#), [here](#).

#### Drew University – Economic Engine - Overview

- Annual total expenses are well over \$100 million ([\\$134m in 2019](#)).
- Drew pays approximately \$49.7 million in annual compensation and benefits ([2019 data](#) and [detail](#)) a significant portion of which is spent in Morris County businesses across the entire range: restaurants and stores of every variety, home maintenance/improvement/repair/tax payments, facilities like gyms, theaters, clubs, and on and on.
- [Drew 2011 Economy Report](#) – Numbers have grown since then
  - 102 Madison residents employed (paid \$6,931,614 combined) – *Much more for Morris County as a whole.*
  - \$5 million impact on Madison alone – *Much more for Morris County as a whole*
  - \$2.9 million for utilities and services in Madison alone – *Much more for Morris County*

#### Employees

- Approximately 500 employees — nearly all in our immediate area, buying everything they need, from meals to automobiles and homes.
- College professor salaries in the U.S. average \$158,0643 in 2021. The range is typically \$75,000 - \$240,000. ([Source](#))
- Healthcare benefits of Drew Employees draw funds from national insurance companies into the local economy, from doctors' offices to pharmacies to Morristown Medical Center. Employee benefits could make up approximately \$10 million, out of [nearly \\$50 million](#) in total employee compensation and benefits.
- Many professors and staff would have to move elsewhere to find work if the university closes

#### Students – Upward Mobility for our Youth

- Drew brings over [1,600 students](#) -- and in some cases their families -- to our area.
- Approximately 2/3 of Drew Students were New Jersey residents even before attending Drew, bringing their economic activity into Morris County. Keeping them in New Jersey for college

helps keep these talented, hard-working people in New Jersey after college. This directly addresses New Jersey's desire to stop exporting bright up-and-comers to other states. Source: Drew University.

- Approximately 1/3 of students come from outside New Jersey, providing greater economic activity to our area.
- Drew gives an enormous “leg-up” opportunity to young people. Average Drew tuition is \$38,301, but average first-time freshman payment is \$18,424. Financial support through Drew makes the “American Dream” accessible to thousands of students. Source: Drew University.
  - Small universities can provide more individualized support in this “leg-up” journey for young people.
- Graduates of Drew University have a median starting salary of over [\\$50,000](#), providing significant economic value once they graduate – most of whom stay in New Jersey.

#### Technology

- Drew offers dual-degree programs in many of the most in-demand areas that Morris County and New Jersey businesses seek. These are some of the reasons why Morris County is highly desirable – the 10th best County in the United States in which to live, according to the [Morris County Economic Development Corporation](#) and Forbes.
  - a. For example: [Drew Dual Degree Programs](#) in STEM/Medicine:
    - i. Cybersecurity
    - ii. Engineering (Columbia or Washington)
    - iii. Environmental Management
    - iv. Forestry
    - v. Medicine
    - vi. Nursing
    - vii. Nutrition
    - viii. Software Engineering
    - ix. Data Analytics
    - x. Finance
    - xi. Medical Humanities, Health, and Society

#### Greater-Community Contribution (leaving aside the Forest for the moment)

- Drew offers dozens of on-campus events such as theater performances, acting classes, world-class lecturers, world-class musical performances, masters swimming, continuing education and more to area residents. It also hosts countless sports practices and games and provides facilities for local youth teams. Drew's Shakespeare Theatre of NJ is one of the artistic and cultural crown jewels of the state.
- Drew student interns are utilized by businesses and government entities across the region.
- Drew is a high-value neighbor offering cache and appeal to Morris County.

#### Longevity

- Most economic engines are short-lived (10-30 years), but the expected lifespan of a University offers a much higher valuation using a discounted cash flow model. Drew that has been here for over 150 years and should be *an economic engine for the next century and beyond*.
- The Forest is a 150+ year hallmark of Drew University. It is a “living laboratory” for projects, research, fieldwork and rejuvenation utilized by hundreds of Drew students and by faculty. Also a recruiting advantage for Drew.
- Drew commends the combination of Forest and region in its [marketing literature](#): “Our beautiful, wooded campus—called The Forest—is a 10-minute walk from the Madison train station, which takes you directly to Midtown Manhattan in under an hour. It's the perfect home

base: a historic campus that offers the comforts of small-town living, the excitement of big-city adventure, and easy access to a world of opportunities. Our hometown, Madison, is postcard-perfect, with trendy shops and cafés. New Jersey Monthly agrees: Madison is the #1 Top Town in its 2019 survey. Our neighbor, Morristown, is a fun (and funky) small city with Food Network–famous eateries, art galleries and studios, museums, and a music scene.”

### **The 53-Acre Forest**

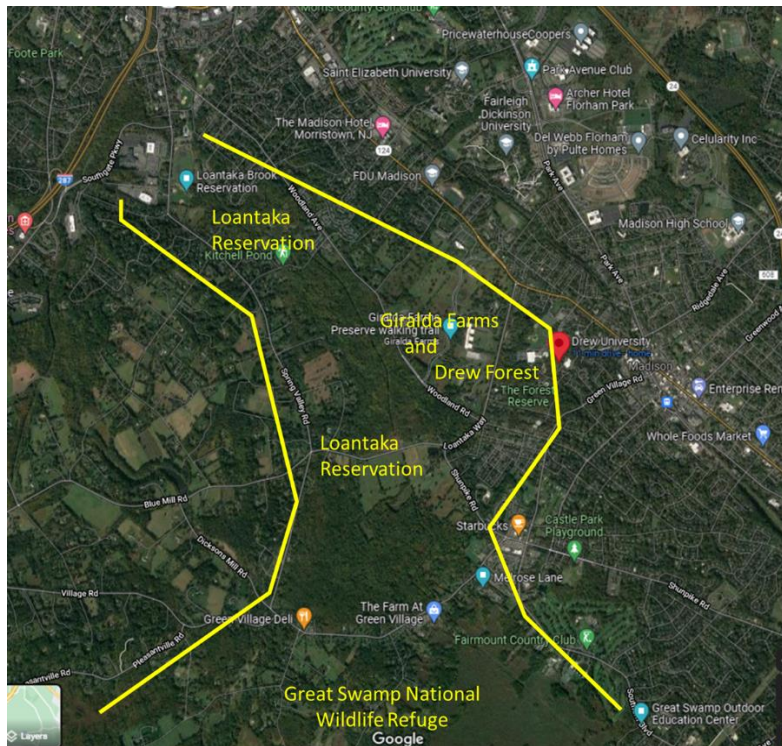
For Morris County, The Forest cleans the air, purifies the water, reduces stormwater flows, provides passive recreation, offers habitat to myriad creatures, and helps draw students, professors and the public to Drew, while uplifting every visitor.

The 53-acre Drew Forest is of unusually high-quality, relative to other forested land in Morris County and the Northeastern U.S. The Drew Forest contains:

- Over 22 acres where deer have been fenced out, invasive plants controlled, and thousands of native plants planted – a model of woodland restoration that won the Governor’s Award for Healthy Ecosystems Award in 2013.
- The Zuck Arboretum and Hepburn Woods sections of the forest are publicly accessible natural areas complete with wooded trails, ponds, wildflower gardens, benches, picnic table, and art kiosk. The Arboretum contains a welcome kiosk with detailed guided-walk literature.
- Morris County (and beyond) have been deeply rooted in the Drew Forest’s restoration. Major support and partnerships have come from faculty, undergraduate students, graduate students, the Hepburn-Martin Foundation, the Garden Club of Madison, the New Jersey Committee of the Garden Club of America, native plant landscape designer Sandy Goodson, the US Fish and Wildlife Service

#### A Natural Corridor in Morris County

- Drew Forest is in the same ecological complex as Giralda Farms Preserve, Loantaka Brook Reservation and Great Swamp National Wildlife Refuge, representing the work of thousands of people and many, many millions of dollars of generational investment.



## Water Retention and Infiltration

- Much of our nation's household and business water comes from aquifers. As water flows through quality soils such as in Drew Forest, it is naturally purified. Natural water filtration saves taxpayer resources as compared to intensive, engineered water treatment, which requires constant costly maintenance and investment. For instance, when New York City needed to solidify its sources of clean water, it [invested in land preservation](#) in the Catskills to save resources versus the expensive engineering water treatment.
- Approximately 1.35 million gallons of rain falls on just ONE acre of the Drew Forest each year (based on our annual rainfall of 48"). Across its 53-acre span, a large portion of approximately 71.5 million gallons of rainfall is stored and purified, on its way to the Buried Valley Aquifer, a major source of drinking water for 32 municipalities in four counties: Morris (13), Essex (12), Union (4), and Somerset (2). The high recharge rate provided by the Drew Forest is a result of its dells (glacial depressions), vernal pools, ponds, and forest, which trap water and infiltrate it slowly into the aquifer.
- This is an "ecosystem service." A 2007 report by the NJDEP valued 12 ecosystem services, including "water supply." These service values are estimated in the table below, showing a value of ecosystem services of \$19,803 PER ACRE, PER YEAR. The report is titled "[Valuing New Jersey's Natural Capital.](#)"
- The value of \$19,803 per acre per year in 2004 equates to **\$28,912** per acre per year today. Multiplied by 53 acres, this equates to ecosystem services of **\$1,532,336 per year**. **These values increase over time**, as the supply of healthy ecosystems wanes, making each acre more precious.

<b>Ecoservice</b>	<b>MM 2004 \$/yr</b>	<b>Pct.</b>
Nutrient cycling	\$5,074	25.6%
Disturbance regulation	3,383	17.1%
Water regulation	2,433	12.3%
Habitat/refugia	2,080	10.5%
Aesthetic/recreational	1,999	10.1%
Waste treatment	1,784	9.0%
Water supply	1,739	8.8%
Cultural/spiritual	778	3.9%
Gas/climate regulation	246	1.2%
Pollination	243	1.2%
Biological control	35	0.2%
Soil formation	8	0.04%
<b>Totals</b>	<b>\$19,803</b>	<b>100%</b>

Here are just three related examples of ways to understand the benefits of the Drew Forest:

- [Nutrient cycling and Waste treatment](#): Trees remove soil pollutants, too – one sugar maple can remove 60 mgs of chromium and 5,200 mgs of lead from the soil per year. Studies have shown that farm runoff contains up to 88% fewer nitrates and 76% less phosphorus after flowing through a forest. Morris County needs its trees – especially the native woodland forest.
- Disturbance regulation and Water regulation (\$2,433 per acre per year): The NJDEP website elaborates on how trees [intercept and slow stormwater flows](#), which can help prevent high volume flows from overwhelming storm drains and basements.
- Water supply: In monetary terms, over 50 years, a single large canopy tree recycles \$35,000 worth of water, according to [USDA Research cited by the City of Houston](#)..

Valuable Forest Services *not* summarized in the table above.

- Clean Air was not a focus of the 2007 NJDEP report. In the past 14 years, many additional studies show tons (literally) of pollutants are removed from the air by forest leaves and limbs, preventing such toxins from reaching human lungs and bloodstreams. Just one single large tree in an urban setting has been shown to [remove over 3 pounds of air pollution](#). Such toxins include – but are not limited to -- sulfur and nitrogen dioxide, carbon monoxide, ozone, and particulates. These pollutants cause and irritate asthma, COPD and many other illnesses. Studies have shown that forests remove up to 60% of particulate matter (fine, poisonous dust from engines, furnaces and other exhausts) that lodge in the linings of our lungs. New Jersey has some of the most polluted air in the nation.
- The [American Lung Association](#) says Morris County is improving its air quality, and we would like to continue this progress (by preserving Drew Forest), especially given that clean air makes some people less vulnerable to Covid 19, a disease that attacks the lungs.
- In monetary terms, over 50 years, a single large canopy tree generates about \$30,000 in oxygen, and removes \$60,000 worth of air pollution, according to [USDA Research](#).
- Carbon sequestration. Our rapidly-warming climate means that we must appreciate the incredible carbon-holding-capacity of forests and forest soils, thus preventing this carbon from warming up the atmosphere. [One acre of forest](#) holds approximately 30,000 pounds of carbon. Trees alone do not sequester this much carbon. Trees PLUS healthy, complex forest soils do high-powered carbon sequestration.
- Reducing the heat-island effect. Forests cool us off in the summer, compared to the intense mirroring-effect of concrete-and-brick downtown areas. Forests are often measured [20-45](#)

[degrees cooler](#) than nearby downtown areas on hot summer days. Data has been collected documenting the cooling effect that the Drew Forest brings to the region.

More on the Health Benefits of Quality Open Space such as the Drew Forest

- The annual rates of 15 out of 24 major physical diseases were significantly lower among those living within a one kilometer radius of open space, according to an article published in 2009 by the Journal of Epidemiology and Community Health (Issue 63, pages 967-973). The relationship was strongest for children under age 12. A 2021 University of Louisville [study](#) has shown that living near trees can offset the negative effects of air pollution on blood vessel health.
- In the past ten years, countless scientific publications have revealed the psychological and behavioral benefits of access to open space, for both children and adults. One of the full-length books that summarizes some of the recent studies is titled, *The Nature Fix: Why Nature Makes us Happier, Healthier, and More Creative*, by Florence Williams. Another is *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, by Richard Louv.

Supporting our Home Values and Special Community

- High quality open spaces are an essential part of Morris County's character. People, regardless of political persuasion, state this repeatedly in town forums, community gatherings and casual conversations. We all want to keep the special character of Morris County.
- Property values are generally higher and increase at a faster rate when they are near permanently preserved open space. Research referenced by the NJ Keep It Green coalition **indicates property values to be 5%-70% higher in areas near open spaces**. Many studies are available, for instance [here](#), [here](#), and in hundreds of entries by Googling "Home values and open space." Major studies have been finding the same thing for [over 30 years](#) since they began. Another helpful report is titled, "[Community Forests: A Path to Prosperity and Connection](#)."
- For [instance](#), "Proximity to parks and open space enhances the value of residential properties and produces increased tax revenues for communities. Open space captures precipitation, reduces stormwater management costs, and by protecting underground water sources, open space can reduce the cost of drinking water up to ten-fold. Trees and shrubs reduce air pollution control costs. And of course, there is the value to human communities of protecting the habitats of wild creatures who live near us."
- "Parks and preserved lands boost land values and property taxes, attract residents and businesses, encourage economic development, boost the economy of surrounding areas, save money over some types of development, preserve ecosystem services, and reduce health care costs." -[An Investment that Pays – The Economic Benefits of Parks and Open Space](#).

### **Drew's Strength is our Strength**

We do not want to contemplate a future without a thriving Drew University and healthy Drew Forest, for all of the reasons above, and many more.

What would be some of the costs if a large portion of Drew's 168-acre campus and 53-acre forest were to be developed?

Impact on property taxes.

- Preserving land is a powerful tool for keeping property taxes down. By leaving land undeveloped, we keep service costs down, and keep neighboring property values up. We need to keep this in mind when considering different land uses.

- In New Jersey, the "ratables chase" at the expense of open space can prove elusive. For every \$1.00 collected in taxes, residential development costs between \$1.03 to \$1.48 in services, according to numerous research reports summarized by ANJEC (Association of NJ Environmental Commissions) ([Open Space is a Good Investment, 2014](#)). These service costs continue forever, while the cost of the open space is limited to the acquisition cost and very minimal ongoing costs.
  - Mendham, NJ was one of the towns whose study was included in this.
  - In Washington Township (Morris), a study of a proposed project showed a payback period to be just 15 years, with benefits accruing each year thereafter.
  - The broadest single study in NJ was a 1994 report by the Pinelands Commission. The average per capita tax increase from 1970 to 1990 was 42% lower in Pinelands towns than in non-Pinelands towns. Pinelands residents paid 6.0% of their income on local taxes while non-Pinelands residents paid 6.9%.
- Studies have extended to commercial development, where it has been found that municipalities sometimes underestimate the long-term costs to taxpayers. Importantly, these studies did not calculate the support for nearby property values that open space provides.

#### Quality of Life

- Heavy residential development of a large portion of the Drew University campus could have a detrimental impact on southeastern Morris County. Depending on the type of development that could result, school operating and capital costs could increase significantly, traffic would increase, and a variety of municipal services costs would increase. Morris County currently has a very productive balance of residential, commercial and university zones, which works quite well for residents. Maintaining this balance with the benefit of a thriving Drew University is a top priority.