

USDA Forest Service

# URBAN FOREST CONNECTIONS

*webinar series*

Second Wednesdays | 1:00 – 2:15 pm ET

[www.fs.fed.us/research/urban-webinars](http://www.fs.fed.us/research/urban-webinars)



# NUCFAC HIGHLIGHTS: CULTIVATING AND ACTIVATING A NATURAL INFRASTRUCTURE WORKFORCE



**Lisa Ortega**

*Member  
National Urban and Community  
Forestry Advisory Council*



**Sara Lamback**

*Senior Program Manager  
Jobs for the Future*



**Dave Gamstetter**

*Natural Resource Manager  
Cincinnati Parks*

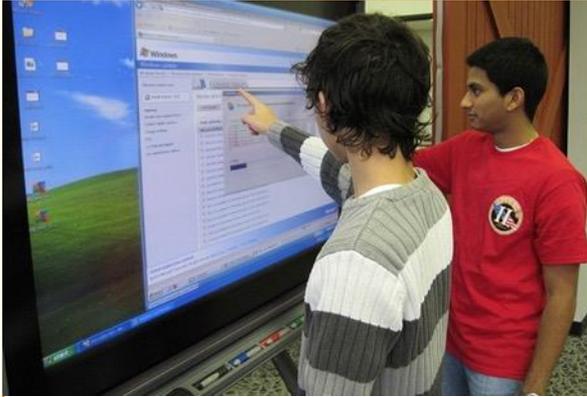


# JOBS FOR THE FUTURE



## EXPLORING THE GREEN INFRASTRUCTURE WORKFORCE

A NATUREWORKS ISSUE BRIEF



### BUILD THE EVIDENCE BASE

- Pilot, test, evaluate, document, and disseminate the strongest education and workforce development strategies



### TRANSLATE RESEARCH INTO ACTION

- Building tools and resources that bring the evidence to life and spark local innovation



### PROVIDE IMPLEMENTATION SUPPORT

- Assist partners in the field to apply the evidence to change policy and practice

← ACROSS: SECONDARY, POSTSECONDARY, WORKFORCE →



- > Research aimed to understand:
  - Workforce trends related to green infrastructure, including:
    - Employment levels
    - Job titles
    - Compensation
    - Educational/skill requirements
    - Potential for job creation
  - Strategies to expand urban green infrastructure employment in the public and private sectors.



- > JFF and NatureWORKS Overview
- > Key Report Findings
- > Recommendations and Implications for Key Stakeholders:
  - Government
  - Philanthropy
  - Education and Training
  - Policymakers

# DEFINING GREEN INFRASTRUCTURE



JOBS FOR THE FUTURE

**GREEN INFRASTRUCTURE** is a collection of natural lands, working landscapes, open spaces, and appropriate construction interventions that conserves ecosystem functions and provides benefits to human populations.





*Green infrastructure provides considerable social, economic, and ecological benefit to this Washington, DC neighborhood.*

*(Photo credit: Phillip Rodbell, U.S. Forest Service)*



*Effective, low-maintenance green infrastructure treatments like this sequenced structure in Wilmington, DE, can capture and treat many thousands of gallons of rainwater during each rain event.*

*(Photo credit: Phillip Rodbell, U.S. Forest Service)*

# NATUREWORKS STUDY CITIES



JOBS FOR THE FUTURE

- > Ann Arbor, MI
- > Austin, TX
- > Charlotte, NC
- > Denver, CO
- > Detroit, MI
- > Lincoln, NE
- > Portland, OR





- > NatureWORKS identified 30 occupations involved in GI-IMI work
- > Occupations involved in GI work employ approximately 3 million people nationwide
  - 6 percent of these workers (approximately 239,000 individuals) are estimated to be directly involved in GI-IMI work.
- > GI-IMI workers are found in the following sectors:
  - Construction
  - Landscaping and Grounds keeping
  - Urban Forestry
  - Tree Care
  - Ecological Restoration
  - Wastewater



- > Estimated occupational involvement in green infrastructure:
  - Approximately 75 percent of occupations had involvement of 10 percent or less in green infrastructure IMI activities.
- > Occupations with higher levels of involvement include:

## 10% to 15%

First-Line Supervisors of Landscaping and Groundskeeping Workers  
Pesticide Handlers, Sprayers and Applicators, Vegetation  
Construction and Building Inspectors  
Farmworkers and Laborers, Crop, Nursery, and Greenhouse\*

## 15% to 25%

Landscaping and Groundskeeping Workers  
Forest and Conservation Workers

## 25% to 75%

Tree Trimmers and Pruners

# OTHER CHARACTERISTICS OF THE GI WORKFORCE



JOBS FOR THE FUTURE

- > Education:
  - Most require a high school degree or less
  - Several, including Environmental Engineering Technician and Forest and Conservation Technicians require an associate degree.
- > Compensation:
  - Median wages range from \$11.50 - \$26.00 per hour
- > Key skills:
  - Equipment maintenance
  - Repair
  - Operation and control
  - Troubleshooting

# NATIONWIDE PROJECTED GROWTH FOR GI-IMI OCCUPATIONS, 2015–2020



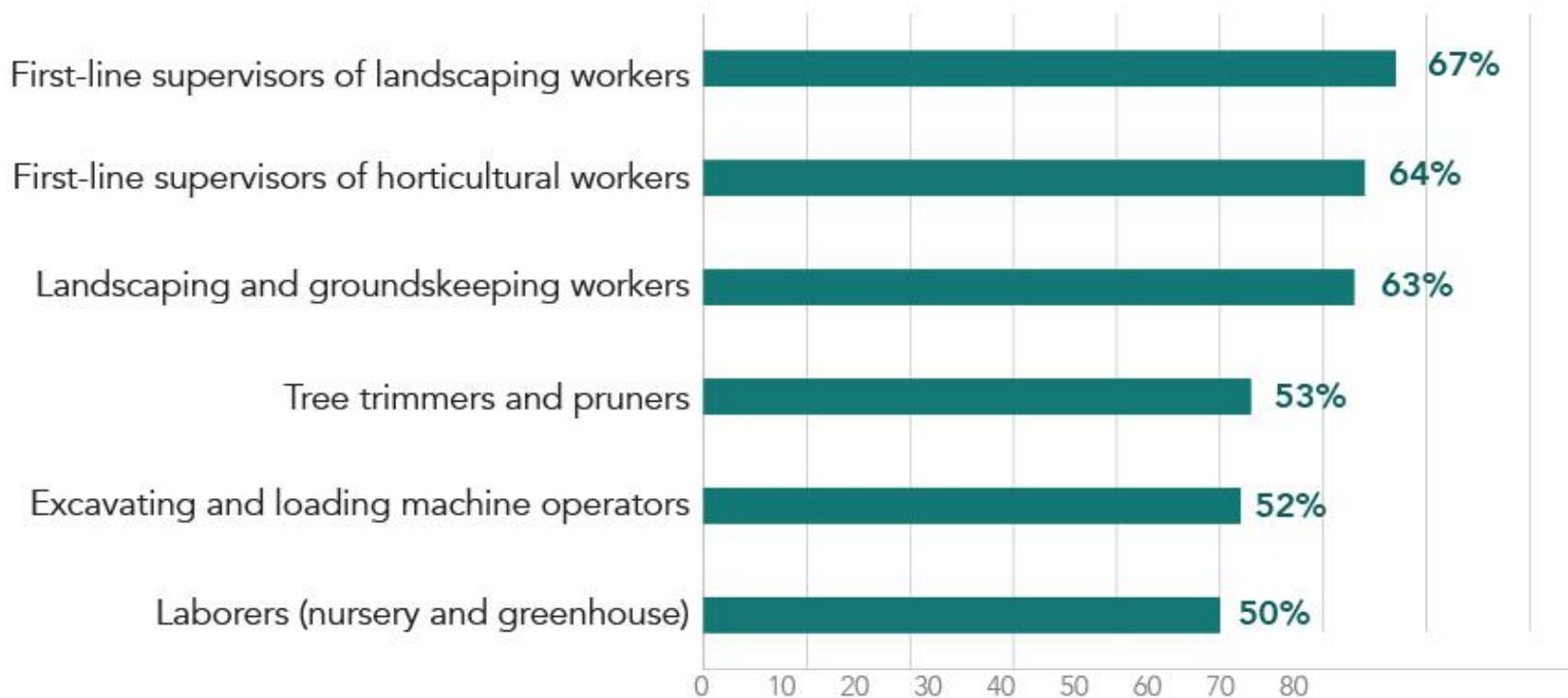
JOBS FOR THE FUTURE

Description	2015 Jobs	2020 Jobs	2015– 2020 % Change
Septic Tank Servicers and Sewer Pipe Cleaners	28,685	31,786	11%
Helpers—Roofers	11,051	12,131	10%
Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters	58,743	64,142	9%
Environmental Engineering Technicians	17,572	19,184	9%
Tree Trimmers and Pruners	61,429	66,174	8%
Landscaping and Groundskeeping Workers	1,258,251	1,348,696	7%
Roofers	148,162	158,240	7%
Pesticide Handlers, Sprayers, and Applicators, Vegetation	31,578	33,656	7%
Helpers—Installation, Maintenance, and Repair Workers	129,984	137,988	6%
Cement Masons and Concrete Finishers	175,776	186,439	6%

# EMPLOYERS REPORTED NEED FOR GI-IMI SKILL UPGRADES



JOBS FOR THE FUTURE

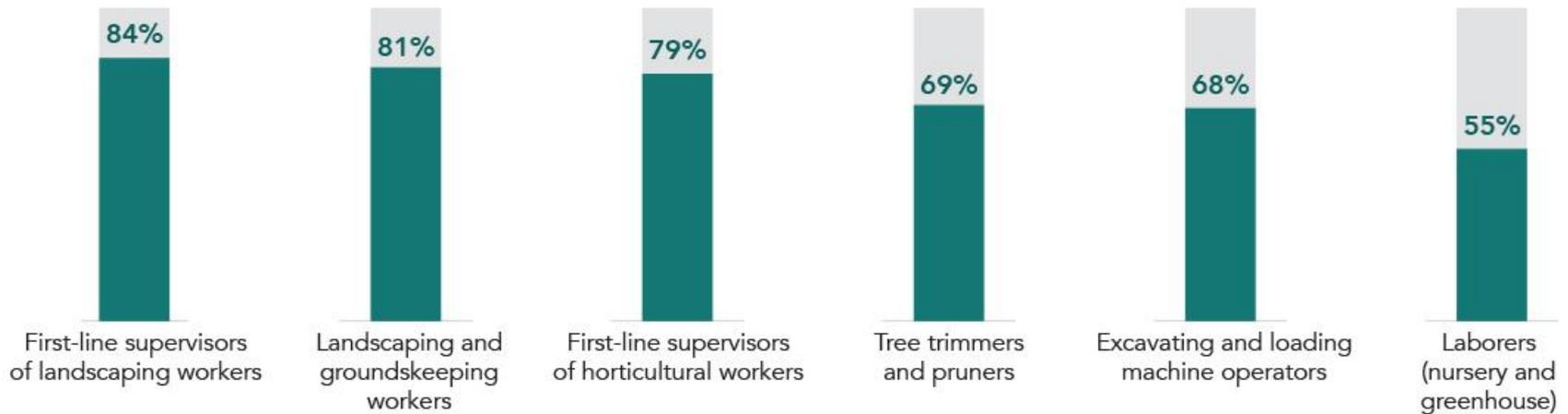


Source: JFF Survey of Contractors (2016). Note: Percentages based upon 478 total responses.

# EMPLOYERS REPORTED DIFFICULTY HIRING



JOBS FOR THE FUTURE



Source: JFF Survey of Contractors (2016). Note: Percentages based upon 478 total responses.



- > The workforce devoted to GI-IMI activities is relatively small.
- > The barriers to entry to these jobs are low and GI-IMI jobs represent valuable opportunities for people seeking good entry-level jobs.
- > The 30 occupations involved in GI-IMI work project good growth through 2020, but the ability of GI initiatives to spur job growth hasn't yet reached the level many advocates had hoped.
- > As the number of GI initiatives increases, opportunities to develop distinct green infrastructure jobs will increase as well.
- > Efforts to create a national green infrastructure certification program may help upskill workers and professionalize the workforce.



- > Government and the green infrastructure community at large can:
  - Help educate policymakers, legislators, and government leaders about the broad array of community benefits of green infrastructure systems.
  - Support the diversification and professionalization of the GI-IMI workforce within state and local government programs and projects. For example:
    - Set explicit goals for minority and women-owned businesses.
    - Provide incentives to businesses that hire local residents for GI IMI.
    - Mandate certification of GI IMI workers (e.g., with the NGICP certification).



- > Help communities better understand the diverse benefits of green infrastructure through grant making
  - Foster dialogue among policymakers, legislators, and both local and national leaders around green infrastructure.
- > Spur coordination and alignment among stakeholders to address education and workforce development challenges related to green infrastructure (e.g., by identifying and funding a regional intermediary).



- > Develop clear career pathways maps and lattices that articulate connections between UGI occupations and related professions.
- > Engage employers across sectors that employ UGI-IMI workers to review curricula and programs.
- > Target training opportunities to specific underserved communities.
- > Raise awareness around workforce opportunities related to green infrastructure.



- > Accelerate national momentum among policymakers for green infrastructure projects.
- > Support the diversification and professionalization of the GI-IMI workforce within state and local government and projects.
- > Serve as public advocates for green infrastructure: support state incentives to spur collaboration among partners and support green infrastructure investments.

**WATCH OUR VIDEO!**



**JOBS FOR THE FUTURE**



**Check out our new video about the Green Infrastructure Workforce!**  
[www.jff.org/natureworks](http://www.jff.org/natureworks)



JOBS FOR THE FUTURE



# EXPLORING THE GREEN INFRASTRUCTURE WORKFORCE

A NATUREWORKS ISSUE BRIEF

**SARA LAMBACK**

[slamback@jff.org](mailto:slamback@jff.org)



**JOBS FOR THE FUTURE**

**TEL 617.728.4446 FAX 617.728.4857 [info@jff.org](mailto:info@jff.org)**

**88 Broad Street, 8<sup>th</sup> Floor, Boston, MA 02110 (HQ)**

**122 C Street, NW, Suite 650, Washington, DC 20001**

**505 14th Street, Suite 900, Oakland, CA 94612**

**WWW.JFF.ORG**