Second Wednesdays | 1:00 – 2:15 pm ET
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NUCFAC HIGHLIGHTS: CULTIVATING AND ACTIVATING A NATURAL INFRASTRUCTURE WORKFORCE

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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.
AGENDA

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

- 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

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

EMPLOYERS REPORTED DIFFICULTY HIRING

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).
RECOMMENDATIONS: EDUCATION AND TRAINING COMMUNITY

- 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.
RECOMMENDATIONS: POLICYMAKERS

> 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!

Check out our new video about the Green Infrastructure Workforce!
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JOBS FOR THE FUTURE

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