

Wisconsin Department of Natural Resources  
**DIVISION OF FORESTRY**

# WISCONSIN'S TRILLION TREE PLEDGE

**2022 ANNUAL REPORT**





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# HIGHLIGHTS

**O**n Earth Day 2021, the State of Wisconsin announced its Trillion Tree Pledge to conserve 125,000 acres of forestland and plant 75 million trees by the end of 2030 in collaboration with public, private and non-governmental partners. With this pledge, the State of Wisconsin recognizes that healthy forests are one of the best nature-based solutions to climate change, working with the US Chapter of the global Trillion Trees Initiative, led by the World Economic Forum and American Forests.

Wisconsin's pledge encompasses the stewardship of forests and trees in both rural and urban areas. Because urban forests are vital for the health of residents as well as the ecological and

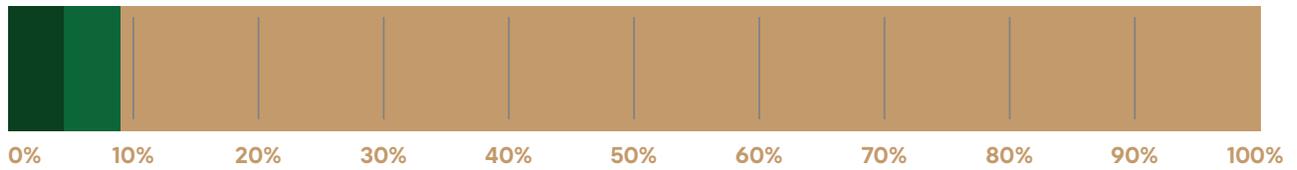
economic well-being of our communities, the Trillion Tree Pledge includes a goal of planting a million trees in Wisconsin cities, villages and suburbs.

The Trillion Tree Pledge focuses on ensuring that all of Wisconsin's forests continue to sustain environmental, social and economic benefits for all its residents.

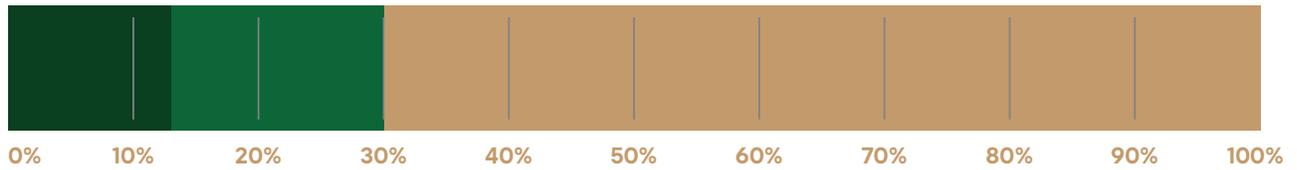
In 2022, more than 12.9 million trees were planted, and more than 2,000 acres of forestland were conserved in the State of Wisconsin. In addition, numerous supporting actions were taken by the Wisconsin Department of Natural Resources (DNR) and its many partners to plant trees and maintain Wisconsin's forests.

# PLEDGE PROGRESS

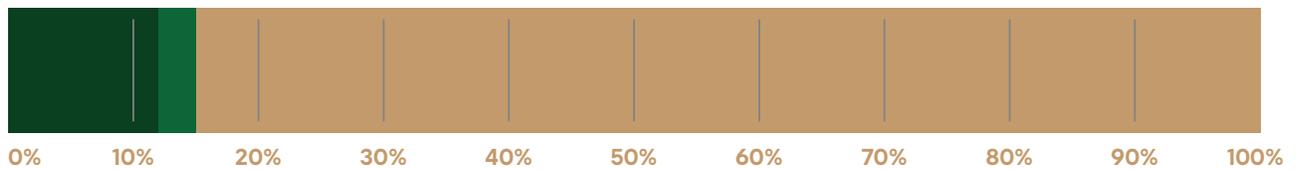
## Urban Tree Planting



## Rural Tree Planting



## Forest Conservation



■ 2021    ■ 2022



# TREE PLANTING

**M**ore than 12.9 million trees were planted in 2022 across the State of Wisconsin, the second year of Wisconsin's Trillion Tree Pledge. Nearly 3.5 million of those tree and shrub seedlings were supplied by the DNR Reforestation program for conservation planting efforts on public and private lands, including:

- » **2.15 million seedlings on private lands**
- » **1.04 million seedlings on DNR, federal, Tribal and other public lands**
- » **More than 175,000 seedlings on county forests**
- » **More than 36,000 seedlings on school forests**
- » **More 35,000 seedlings for students on Arbor Day**

In addition to the seedlings supplied by the DNR, private nurseries also supplied another estimated 500,000 trees planted by land-owners across Wisconsin.

The DNR Reforestation program distributed 550.25 pounds and 109 bushels (872 gallons) of seeds, or almost 89 million seeds, that were direct seeded on public and private lands, resulting in more than 9 million seedlings (based on current survival rates).

In urban areas, Wisconsin communities planted more than 43,000 trees, nearly 2,000 of which were funded in association with WDNR Urban Forestry grants.



Watering seedlings at Wilson State Nursery



Digging seedlings for distribution at Wilson State Nursery



Hand planting acorns planting at Wilson State Nursery



### PLANTING HARDWOODS AT THE MEAD STATE WILDLIFE AREA, MILLADORE, WI

DNR Forester Nick Hovda worked closely with the staff at the Mead State Wildlife Area to plant trees in former share crop fields. Over a three-year period, staff from both Wildlife and Forestry will be planting a total of 30 acres of conifers and hardwoods. The first planting was a 10-acre parcel conducted in mid-May 2022. The days were hot, dry and windy, but with dedication and careful planning, the seedlings have done remarkably well. The planting was revisited and measured in late June, and 88% of the seedlings were growing and thriving – a great start. More seedlings will be added to the planting, and staff will continue to monitor the planting’s progress in the coming years.



# FOREST CONSERVATION

**T**he State of Wisconsin, in collaboration with public, private and non-governmental partners, has pledged to conserve 125,000 acres of forestland. In 2022, the DNR purchased 1,300 acres and acquired conservation easements on 720 acres of forestland. Partners conserved an additional 220 acres of forestland throughout Wisconsin.

To achieve this ambitious goal of conserving 125,000 acres of forestland over the next 10 years, continued support for the Knowles-Nelson Stewardship Fund and the Forest Legacy Program is needed to support the DNR,

county forests and non-governmental entities in their bid to acquire lands.

The Knowles-Nelson Stewardship Program, which started in 1989, makes it possible for conservation organizations and DNR to purchase land that protects our lakes and streams, conserves working forests, secures critical wildlife habitats, and provides opportunities for outdoor recreation. The Forest Legacy Program, which started in 1990, identifies and protects environmentally important private forestlands threatened with conversion to non-forest uses.



Discussing forest management options



Prescribed burn at Douglas County Bird Sanctuary

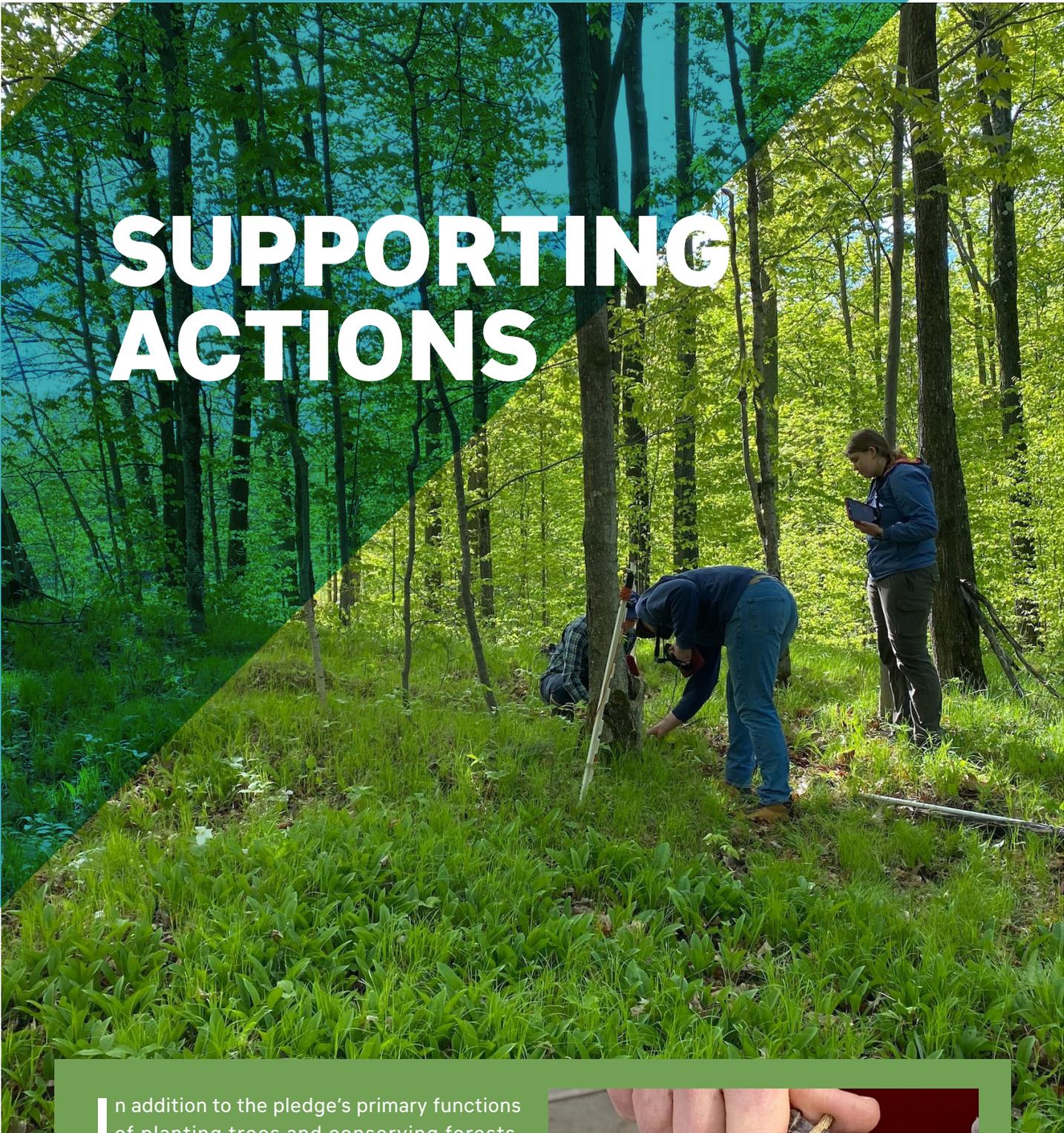


Fishing on the Brule River State Forest



Upland bird hunting in Oneida County Forest

# SUPPORTING ACTIONS



In addition to the pledge's primary functions of planting trees and conserving forests, supporting actions help tree planting and forest conservation occur more effectively and efficiently by creating healthy forests, supporting a strong forestry sector and providing technical assistance. A description of the accomplishments in each of the supporting action categories follows.



## SUSTAINABLE FORESTRY

Three major land management programs administered by the DNR are verified under third-party forest certification programs. Independent, third-party certification ensures that forests are responsibly managed and safeguards environmental, social and economic benefits.

More than 1.5 million acres of DNR-managed state lands are dual certified under the Forest Stewardship Council® and Sustainable Forestry Initiative® standards, and nearly 70,000

acres of state lands managed by the Board of Commissioners of Public Lands are certified under the Forest Stewardship Council®. Another 2.3 million acres of county forest land are certified under one or both standards.

Additionally, 2.5 million acres of private lands under the Managed Forest Law Program, administered by the state, are dual certified under the American Tree Farm System® and Forest Stewardship Council® standards.



Young oaks growing at Wilson State Nursery

## NURSERY DEVELOPMENT

The DNR Reforestation program produces seedlings in conjunction with private nurseries to meet demand from the tree planting community while maintaining its ability to increase production at other state-owned nursery facilities. Seeds for state nursery production are procured from sources throughout the state to foster genetic diversity in seedlings.

In 2022, the DNR Urban Forestry program published results from a survey of Wisconsin

municipalities about tree species and sizes of interest. The report is intended to spur nursery capacity and inspire species diversity.

The DNR and its partners also continue to encourage the construction and expansion of gravel beds. Gravel beds allow communities to develop the root systems of trees, ultimately making tree planting easier and less expensive.

## DATA AND TECHNOLOGICAL TOOLS

Wisconsin has several forest inventory programs that provide valuable data used in rural and urban forest management. Inventory data provides objective information on the diversity, health and size of Wisconsin's forests and is the primary Wisconsin data source for many national and global forest assessments.

The DNR implements the USDA Forest Service's Forest Inventory and Analysis program at a double spatial intensity, meaning that twice as many plots are established and revisited than the national baseline. Similarly, the Urban Forest Inventory and Analysis program is implemented at five times spatial intensity. The state also coordinates the Wisconsin Continuous Forest Inventory program on all state forests, with one plot per 160 acres of state forest land.

The Forest Regeneration Monitoring program was initiated in 2018 to assess regeneration

on recently harvested public and private forests across the state. The first three-year data collection was completed in 2020; the second cycle started in 2021. The data allows better tracking of long-term changes and will help create policies to ensure the long-term sustainability of Wisconsin's forests.

Additionally, the Wisconsin Forest Inventory and Reporting System (WisFIRS) enables foresters to store data collected in the field and is used to plan and track completed activities. The system allows foresters and habitat managers to plan for future plantings and report accomplishments.

Finally, the Wisconsin Tree Planting Map was released in 2022 to capture newly planted trees that could be integrated into the state's Trillion Tree Pledge.



Lifting seedlings at Wilson State Nursery



## GROWING SEEDLINGS FOR DREAM:

The DNR and USDA Forest Service planted seed of 14 different species from Michigan, Indiana, Illinois, Iowa and Wisconsin in the fall of 2022 at Wilson State Nursery. The resulting seedlings will eventually be planted at four National Forest DREAM (Desired Regeneration through Assisted Migration) research sites and at the Pine Popple DREAM research site, which is located within the DNR's Wild Rivers Legacy Forest in northeastern Wisconsin. The 66 hectare/162 acre experimental site is characterized as a northern hardwood forest with silt loam soils and an overstory dominated by sugar maple (*Acer saccharum*). The goal of the project is to test a range of climate-smart silvicultural strategies for economically and ecologically important species in an assisted migration context.

## SCIENCE AND TECHNICAL ASSISTANCE

Many agencies and programs within Wisconsin offer scientific research and technical assistance for forest conservation, regeneration and tree planting efforts. The University of Wisconsin (UW) System is an international leader in forestry and horticultural research. UW-Madison's Division of Extension conducts important research and provides extensive technical assistance.

DNR has numerous programs engaged in forestry research and technical assistance for forest management and tree plantings. The Urban Forestry program helps "plant" sustainable urban forestry practices through guidance, training events, conferences, and grant funding. Staff from the Forest Economics and Ecology Section are involved with the *Driftless* ASCC (Adaptive Silviculture for Climate Change) Project. The Driftless ASCC Project is an innovative multi-state partnership and long-term study testing silvicultural strategies to sustainably manage Driftless Area oak forests under a changing climate. Project goals are to introduce forest managers to climate change tools and approaches and to provide examples of how to integrate climate change adaptation into forest management planning and on-the-ground actions.



Monitoring temperature of seedlings in storage at Wilson State Nursery

## TREE PROTECTION THROUGH MANAGEMENT

DNR Forest Health staff monitor pests, diseases and invasive plants in public and private forests. They share guidance on prevention and management to minimize losses from these threats. Staff members also work with the Reforestation program to ensure all planting stock produced by the state nursery is healthy and carries no infection that could emerge when seedlings are planted in more challenging natural conditions.

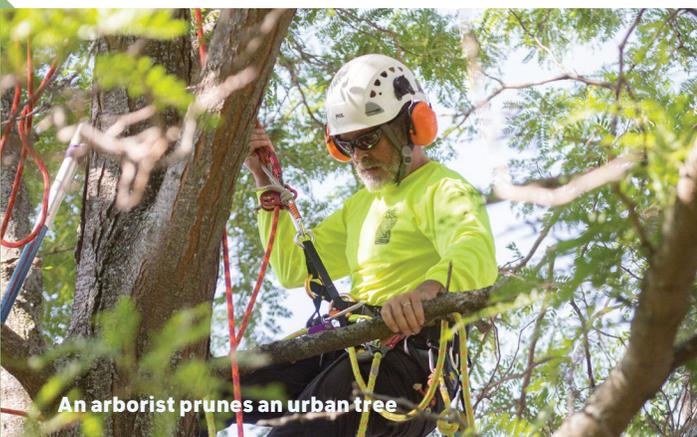
While healthy forests can typically survive some damage from native pests without the need for intervention, invasive pests, diseases and plants can cause significant damage if preventative action is not taken. The DNR requires those cutting trees on DNR lands to take precautions to prevent the spread of oak wilt and Heterobasidion root disease, as those diseases that can spread throughout a stand and kill all susceptible trees. The guidelines are recommended on private lands.

The DNR also dedicates funds for invasive species management on public lands. The Weed Management Area-Private Forest Grant Program (WMA-PFGP) assists weed management groups in addressing invasive plants through grants that cover up to 75 percent of eligible costs. Additional state programs provide treatment funds for private landowners (e.g., the Wisconsin Forest Landowner Grant Program), local governments and community organizations (e.g., urban forestry grants). Technical assistance to these audiences is available.



### CELEBRATING ARBOR DAY IN CEDARBURG, WI

The City of Cedarburg and Cedarburg Green (the city's urban forestry focused non-profit) celebrated Arbor Day with 4th grade students at Thorson Elementary on Friday, April 29, 2022. City forestry staff demonstrated how to properly plant a tree on the school's front grounds. Students also learned about tree benefits and threats, such as emerald ash borer. Each year, the program rotates between three different elementary schools. Additionally, the city and Cedarburg Green organize educational sessions on tree planting and care for residents. They also host a tree sale which aims to increase canopy on private property.



An arborist prunes an urban tree



DNR staff searching for emerald ash borer

## FOREST PRODUCT MARKETS AND INNOVATION

Healthy markets are vital to sustainable forest management and keeping forests as forests. Wisconsin's 1,000 forest product manufacturers help maintain forest health by generating economic revenue, which incentivizes forest management and discourages land use changes. A lack of demand for forest resources will reduce the capacity to manage and promote healthy forests for the future.

The DNR Forest Products Services program offers technical assistance to businesses interested in implementing sustainable forestry practices. The program also explores and promotes markets with locally produced wood products that aim to sequester more carbon via wood product utilization, industry growth and sustainable forest management.

Forestry Division staff in the Reforestation and Forest Products Services programs collaborated on a biochar field trial at the Wilson State Nursery in Boscobel in 2022. Biochar is a soil amendment (addition) made from organic material, including wood residues and forest biomass, containing up to 80 percent pure carbon. Applying biochar to the soil may increase long-term carbon storage, reduce nursery operating costs by decreasing fertilizer, water and other inputs; improve soil and seedling health; and limit impacts to aquatic ecosystems by reducing nutrient leaching and runoff.

Biochar also presents a significant opportunity to use low-value wood materials such as some urban tree removals, forest biomass and mill residues, diverting this carbon from the atmosphere and locking it in the soil for hundreds of years. Division staff produced biochar from small-diameter tree trimmings using a flame-cap kiln. After processing, the biochar was applied to the nursery beds. Its effectiveness will be monitored in subsequent years.

## ENVIRONMENTAL EDUCATION

Wisconsin supports environmental education by annually funding forestry education programs administered by the Wisconsin Center for Environmental Education (WCEE) through UW-Stevens Point. The funding supports a K-12 forestry education program known as LEAF, Wisconsin's implementation of the Project Learning Tree program that uses trees and forests as the vehicle to teach students how to think critically about the environment, and the Wisconsin school forest program's network of outdoor classrooms. Additionally, a curriculum was developed by WCEE and DNR Urban Forestry staff to help teachers and students map trees on their school campuses.

The DNR also provides annual funding to the Forest Exploration Center to manage a state-owned property in Milwaukee County for forestry education, helping to reconnect Wisconsin's largest urban population with our natural resources. DNR collaborates with partners throughout the state to celebrate Arbor Day every April and raise awareness of the importance of trees and forests to the state and its residents. For the past 40 years, DNR has supported schools in their Arbor Day programs by supplying free tree seedlings to fourth-grade classrooms. Many of the projects receiving DNR grants (e.g., from the Urban Forestry program) also include educational components.

## CONSERVATION FINANCE

The DNR supports several donation programs that aid forest conservation and tree planting efforts. There are dedicated gift funds from private companies for tree planting and a general "Forest for the Future" gift fund for small donations that support tree planting. Each of these gift funds targets tree planting activities on state lands. Other gift funds are designated for forestry education and outreach efforts. In 2022, \$15,059 was donated to the programs.



# PARTNERS

**T**o achieve Wisconsin's Trillion Tree Pledge, the State of Wisconsin is working across multiple agencies and with many government, non-profit and private partners. Participating agencies and partners include:

- » Department of Natural Resources
- » Department of Administration
- » Department of Transportation
- » Department of Agriculture, Trade and Consumer Protection
- » Department of Workforce Development
- » Board of Commissioners of Public Lands

- » Wisconsin County Forest Association
- » University of Wisconsin System
- » Wisconsin Technical College System
- » Nature Conservancy
- » Council on Forestry and associated forest community and industry representatives
- » Alliant Energy Foundation

In 2022, the Alliant Energy Foundation and the DNR signed a Memorandum of Understanding as part of the Alliant Energy Foundation's commitment to planting 1 million trees in Iowa and Wisconsin by 2030.



Young conifers at Wilson State Nursery



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