



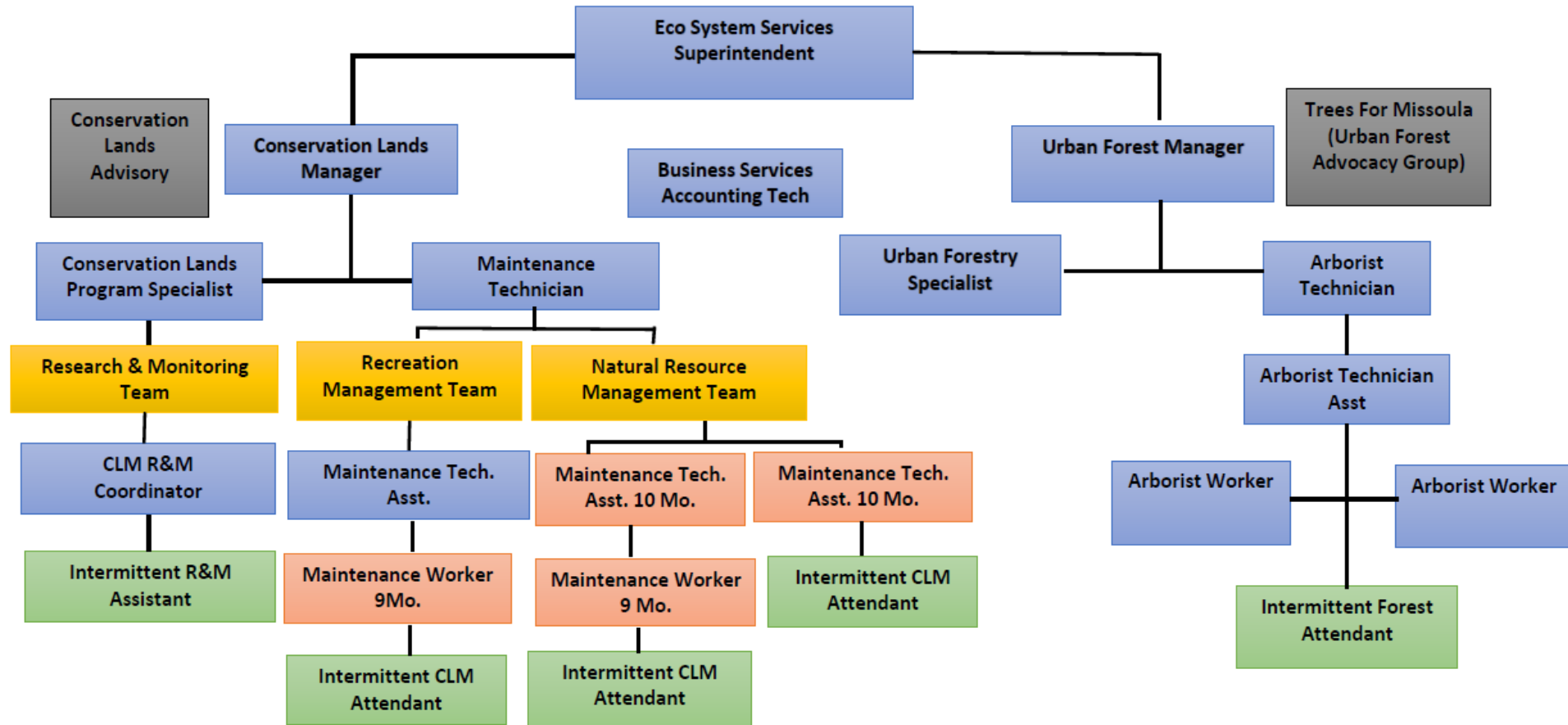
Urban Forestry Program: 2020 Highlights

- Morgan Valliant – Ecosystem Services Superintendent
- Marie Anderson – Urban Forestry Program Specialist

*Ecosystem Services are the
direct and indirect
contributions of ecosystems
to human well-being.*



Ecosystem Services Division



Dedicated Volunteer Groups



Full-time 12-mo. staff



Functional work teams



Full-time Seasonal staff



Intermittent staff





Missoula's Urban Forestry Division

The work we do:

- Strive to meet community goals in the Urban Forest Management Plan, Open Space Plan & the Master Park Plan through the lens of the 2020 Climate Ready Missoula Plan.**
- Directly reduce City liability, property damage and public hazards through responsible proactive management**
- Guide the development of our urban forest through strategic plantings, public education, volunteerism and development reviews.**
- Collaborate with Conservation Lands, Developed Parks & Trails and other City Departments on holistic forestry projects.**

2020-2022 Work Goals:



Breaking Silos:

Increased departmental cooperation with Community Planning, Development & Innovation; Public Works & Mobility; and Permit Specialists to ensure City tree standards are dopted across departments.



Sustainability:

Utilizing wood waste, going electric and increased efficiency through utilization of new technology.

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Protection of High Value Trees:

Utilize UF inventory to target maintenance—well maintained trees are healthy & “safe” trees. Work to implement tree protection standards across all City projects.



Right Tree, Right Place

Continue to evolve our internal decision making processes when selecting individual tree species and broad planting priorities to include “non-traditional” selection criteria. Update adopted plans and standards if applicable

2020 ACCOMPLISHMENTS

- **Sustainability:**

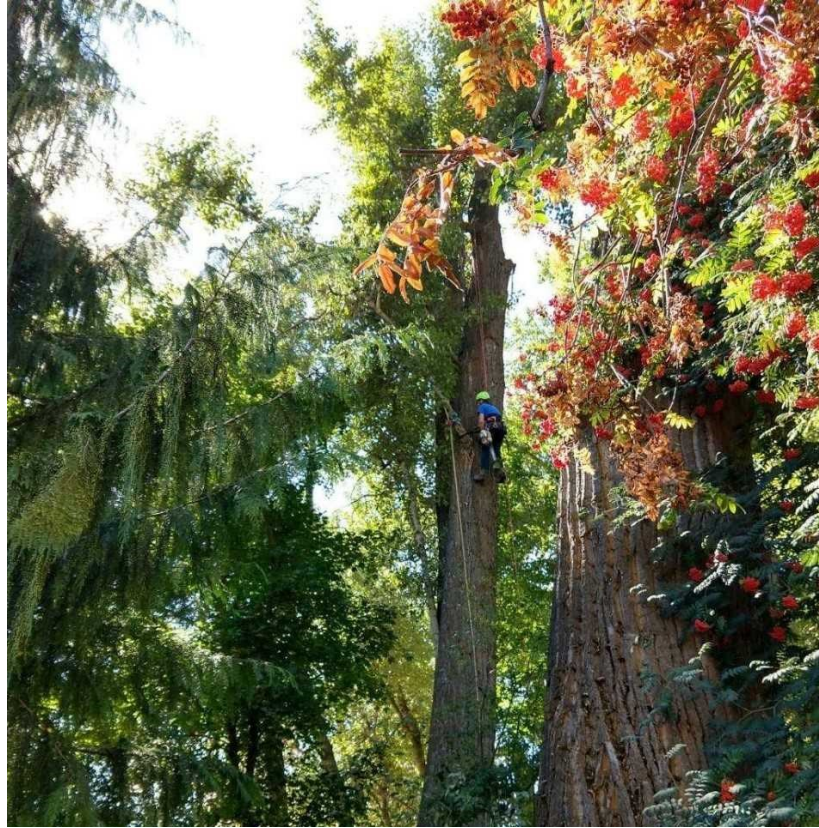
- Purchase of multiple electric chainsaws for on-ground and work aloft,
 - Decrease in carbon footprint by eliminating use of combustion engines and trips to purchase fuel,
 - Switch to synthetic bar oil,
 - Increased worker protection by decreasing exposure to exhaust & noise pollution, and reducing fatigue
- Merging habitat goals of conservation with tree risk and liability reduction.

- **Improved Customer Service (update to our C.S.R. system) :**

- Re-organized Customer Service Request system to increase productivity, work prioritization and tracking and improve customer service,
- Decreased/eliminated paper waste, lost CSR's and response time.
- Each CSR now has a priority level and an internal due date

- **Tree Inventory Update:**

- Original completed in 2013, currently about 65% updated,
- Current inventory= 30,252 trees , anticipate increase by up to 20% when inventory is "complete".



Habitat meets “Traditional” Urban Forestry Practices

- Creating habitat trees instead of removing the tree entirely,
- Removing invasive species within parks and waterways,
- Increase cross-training & collaborative projects between Conservation Lands and Urban Forestry



search



TreeKeeper Software

- New software purchased in 2019
- Real time data, elimination of paper work orders, increased efficiencies and increased education opportunities,
- i-Tree Software able to calculate Ecosystems benefits
 - Helps us build a sustainable, functional forest that improves human health and well being,
 - Carbon avoided, sequestered, Stormwater gallons saved, Kilowatt savings, Pounds of Air Pollutants Saved, Property benefits.
 - Benefits calculated based on industry standards and complex, built in algorithms based on DBH, condition, location and species.

Tree Ben

30,25

Total Year

\$3,28

Greenhou

\$43,125.0

3,466,113

2,775,979

Water Be

\$346,579

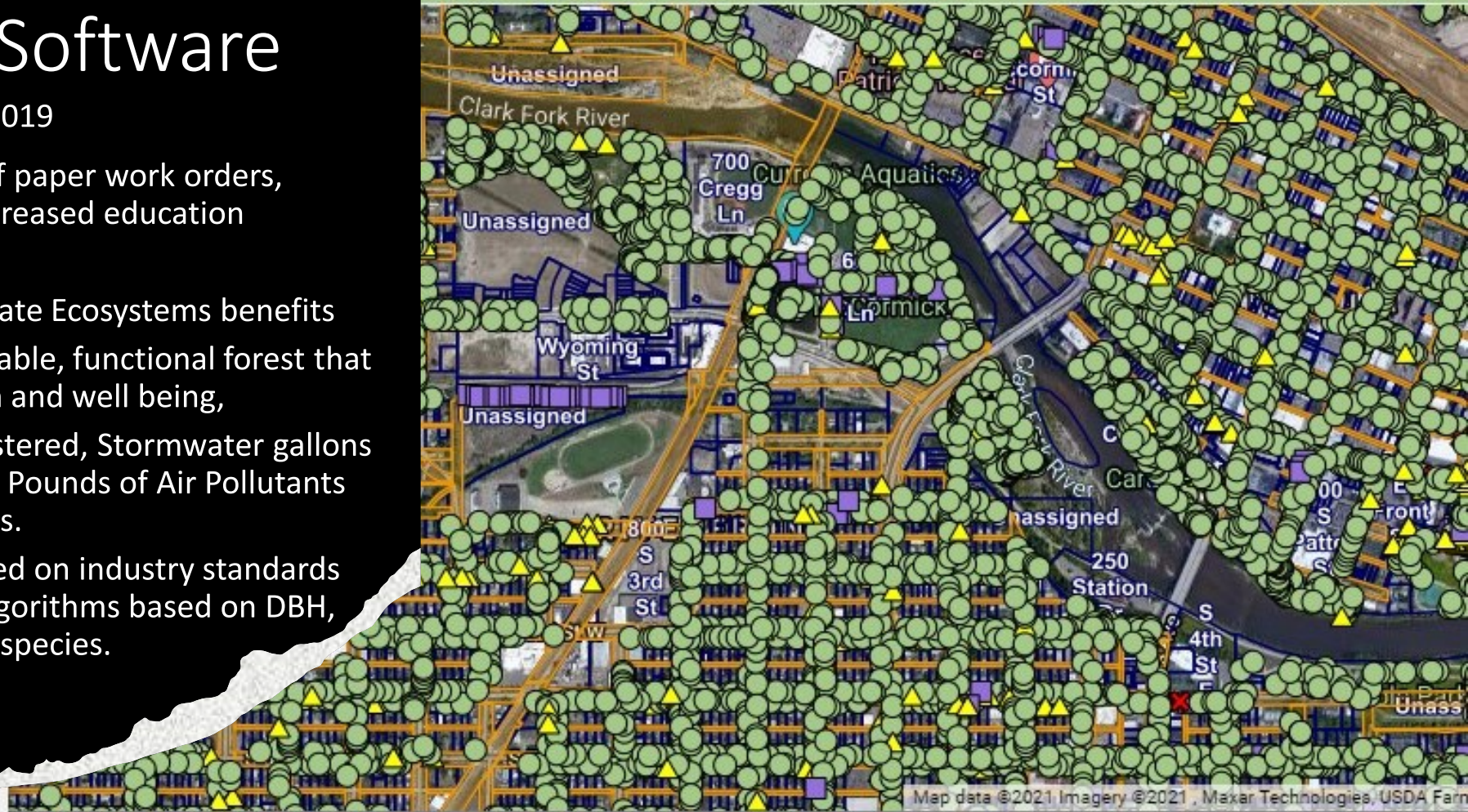
32,090,72

Energy B

\$329,099.30

2,192,953.85 kWh saved

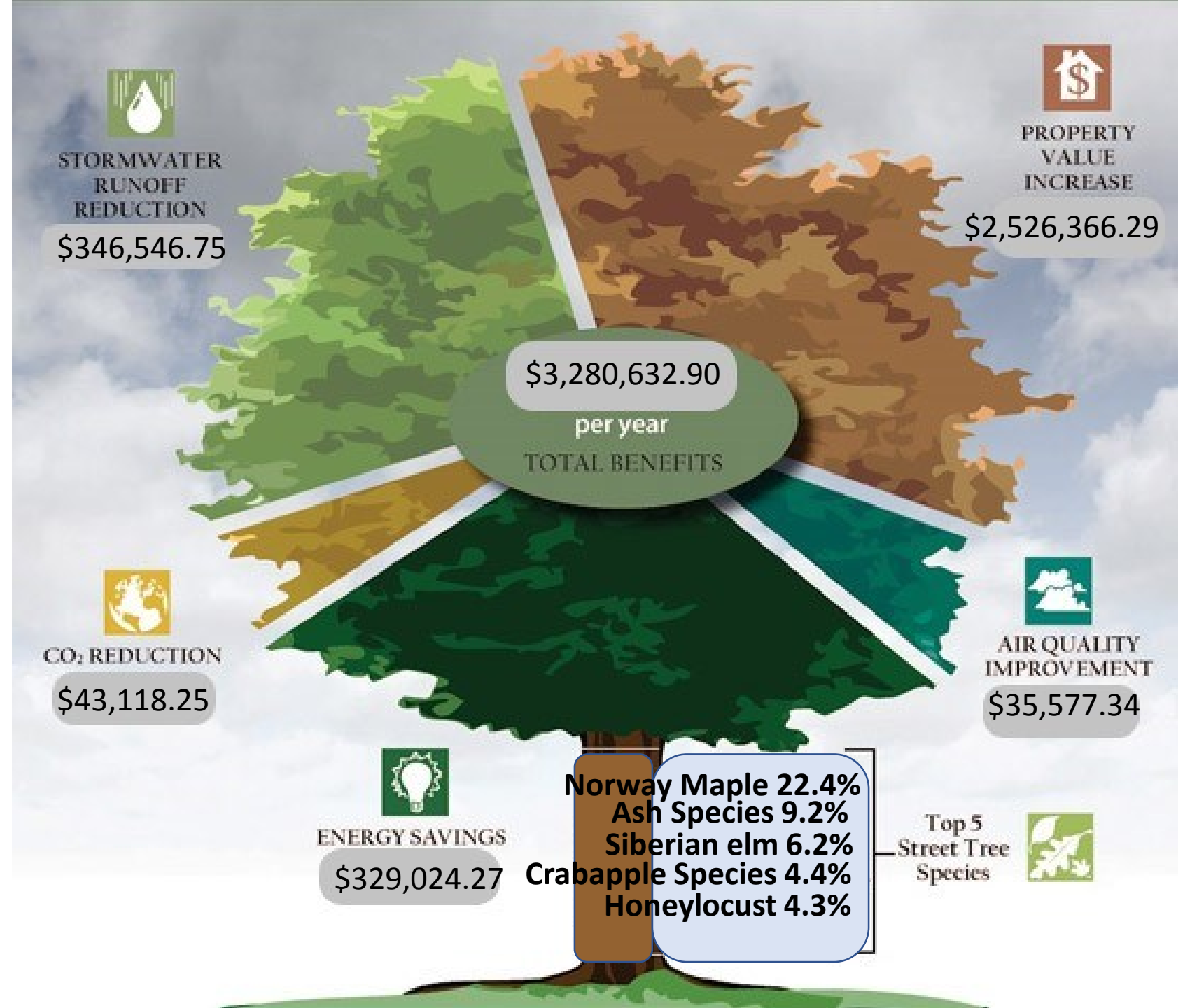
209,163.28 Therms saved



Missoula's Urban Forest

Annual Ecosystem Benefits:

- New software allows the UF program to add and track all trees on a daily basis, and pull reports in “real-time”.
- 30,293 trees inventoried as of 3/1/2021
- Ecosystem benefits can be calculated as total annual monetary benefits our community receives from our urban Forest.



2020 by the Numbers

- Trees Planted in 2020 :
 - 100 planted in-house
 - 78 trees by volunteers
- 200 Trees removed in 2020
- Over 1000 trees pruned in 2020
- Customer Service Requests Since October 15, 2020:
 - Over 500 inspections completed,
 - About 100 CSR's completed



2020 by the numbers cont....

Trees For Missoula Volunteers

Approx. 530 total volunteer hours (\$7950) tracked in 2020

- Open Space Bond Reforestation bond - 78 bare root and container trees planted – 200 hours
- Tree Watering Door Hangars delivered – 25 hours
- Mullan Road - 250 trees pruned by VIP's over 150 hours, (January, February and March 2020 – *prepandemic*)
- Deer Fencing to prevent deer rub and browsing and turf removal and mulching – 155 hours
- Pleasant view volunteer – crown raised over 500 trees – between June and October 2020.





2020 by the numbers cont....

Storm event(s)

- Storm Calls 2020 –
 - Frequency of storm calls increased by a factor of 4 (12 events in 2020!)
- Tree loss increased in Pleasantview and Hellgate meadows – resulting in the removal of Autumn Blaze maple removed from the Approved Street Tree List, also example of lack of formative pruning creating future structural damage and tree loss.
- CASE STUDY.....Recent Storm event in January 2021
 - Occurred in an area with high level of past UF maintenance, of 13 downed trees only 2 were publicly owned!
 - 12 of 13 were Spruce trees, primarily Colorado Blue spruce,
 - Multiple Fire Department, Police, Streets, Traffic Services and Parks staff were deployed.
 - High level of cross Department coordination – restored travel on main arterials, assessed damage property, ensured public safety and removed debris quickly.



2020 by the numbers cont....

New City Forests

Expressway Area Annexation:

- UM grad. Student/intern, Robin Rank inventoried the Potter Park and Creekside HOA subdivisions and the commercial areas to the west.
- 1,065 trees added to the inventory,
 - \$90,880 in overall ecosystem benefits,
 - 18 different species: 50.0% ash, 10.7% maple, 4.6% crabapple and 3% lindens.
- Some Challenges,
 - High susceptibility to Emerald Ash Borer
 - No formative pruning....required 850 trees to be pruned in 2019 and early 2020 for vehicle clearance, multiple trees with serious structural defects
 - Implementing an multi- year remove and replace program to increase species diversity and public safety



Wrapping up 2020 Numbers:

Grants

Received:

- \$750 Arbor Day Grant (DNRC) – planting 3 New Horizon elms planted to increase the shade and comfort of the space at the Belleview Bike Park Shade Shelter, utilized 60 hours of Trees For Missoula Volunteers,
- \$3,800 DNRC Program Development Grant approved for 2021, creating phase one of video series for education and planting permits.

TOTAL AWARDED=\$5300

2021 URBAN FORESTRY PROGRAM PRIORITIES

- Plant Propagation Program
 - Ball and Burlap Native Species Tree Nursery
 - Gravel Beds for Bare Root Tree Program
- Open Space Bond – Reforestation Project
 - Season one of four complete - 78 trees planted; many challenges met,
 - Season two – 100 trees slated for late summer/ fall planting, 50 trees slated for planting in Spring 2022
 - Numerous grant applications submitted, to leverage taxpayer dollars.
- Urban Wood Utilization
 - Contract and in-house tree removals – mill-able material salvaged and stored,
 - Process and order forms in development
 - For use in Operations and Parks projects, eliminating wood waste and supporting local partnerships and businesses.

Plant Propagation Program



Ball and Burlap Nursery:

- Collaborative project with Missoula Wastewater and Compost,
- Allow us to cost-effectively grow limited availability and specialty species
- Spring 2021 - City Arborists will clear & chip & remove stumps on about an acre of hybrid poplar trees
- Summer 2021 - City Cons. Lands Crews will manage weeds and prep irrigation
- Fall 2021 - seedlings will be planted to start the nursery and watered with treated effluent.

Gravel Bed Nursery:

- Collaborative project with Trees for Missoula, City wastewater and Developed Parks and Trails.
- 150 bare root trees on order for 2021 delivery,
- 100 to be grown over the summer for Fall planting and 50 grown in air pots for Spring 2022,
- Two gravel beds located at Wastewater, One new gravel bed being constructed near maint. facility at Ft. Missoula Regional Park.



Open Space Bond Reforestation: *Year 2*

- Limited Tree removals of in older parks (Sacajawea and Franklin) will occur,
- Sacajawea, Franklin and Westside parks will receive ball and burlap trees, planted by City Arborists.
- Skyveiw will receive bare root trees, planted by Trees for Missoula Volunteers,
- This combination of planting types allows for increased planting program capacity, utilize community support and advocacy, and build relationships between community members and their public open spaces.



Urban Wood Utilization:

- In 2021 the UF program will be moving towards a zero-waste model.
- Beginning January 2021 – all tree removal contracts will include salvaging mill-able logs,
- UF Logs storage and debris/chip drop-off consolidated to Missoula Compost facility,
- City Programs will be able to place orders for dimensional lumber 1-year in advance of project.
- Lower the carbon footprint of Parks projects by utilizing a local resource, keeping budgetary funds local, retaining sequestered carbon in the urban forest into locally used lumber and telling the story of the Urban Forest!



A Huge Thank You to Our Partners and Friends!

- Karen Sippy, Executive Director – Trees For Missoula
- Trees For Missoula Volunteers – You know who you are!
- Jamie Kirby, Urban and Community Forester – DNRC
- Amy Cilimburg, Executive Director and the wonderful staff of Climate Smart Missoula
 - Robin Rank, 2020 Urban Forestry Intern,
- Robin S, Siobhan H. and Susan T - U of M ENST535 class
 - Home Resource
 - Local Tree Care Companies!