



Chase McLean © TNC

### Profile of a Conservationist Chase McLean

The Nature Conservancy's Conservation Steward Chase McLean wears many hats, including hard hats. Chase and his team are responsible for managing approximately 14,200 acres across 15 TNC preserves on Maryland's Eastern Shore, not to mention a wide range of partner sites where TNC plays a supporting role.

To do this job effectively, one must have a broad range of skills. On any given day, Chase can be found operating heavy machinery, inventorying rare species, performing GIS spatial analyses, leading field trips, mowing trails and more. Chase holds six different fire qualifications, including first aid and CPR, and he is an FAA-certified drone pilot.

Conservation is much more than simply protecting land. It requires dedicated and talented people—like Chase—to protect, manage and restore the lands and waters on which all life depends.

#### SUPPORT OUR WORK

Make a donation with the enclosed envelope or online at [nature.org/ChangelsHere](https://nature.org/ChangelsHere)



IGNIS drone operator Chase McLean prepares an ignition drone for a controlled burn at TNC's Sideline Hill Creek Preserve. © Severn Smith/TNC

## Technology on the Fire Lines

Shovels, chainsaws, drip torches, amphibious vehicles—and now ignition drones (IGNIS by Drone Amplified). These are just some of the technologies and equipment that The Nature Conservancy's fire practitioners use on controlled burns. Prior to the burn, planning teams use geographic information systems (GIS) mapping tools, custom-built weather monitoring stations, data visualization tools, and other technologies to create burn prescriptions. After the burn is complete, stewardship staff use LiDAR satellite imagery, acoustic bird recordings, wildlife cameras and other technologies to monitor the impacts of the burn.

In many ecosystems—including the temperate deciduous forests, maritime forests and coastal wetlands of Maryland—fire is as natural a process as rain. After more than a century of fire suppression, TNC and our partners are bringing fire back to the landscape, and attempting to do so at a landscape scale.

In order to achieve this goal, we are deploying some of the most advanced technologies and scientific practices that allow us to burn more acres, faster and more safely than ever before.

**“IGNIS is composed of over 600 parts, including precision machined aluminum, carbon fiber, five different motors, and numerous onboard sensors that are coordinated with custom electronics. It can drop up to 120 spheres per minute, burning approximately 700 acres per hour.”**

Chase McLean, Conservation Steward

Improved safety conditions for burn crews are one of the many benefits of the new ignition drones. Without them, members of the burn crew must walk through the middle of a burn unit using handheld drip torches to get fire on the ground. This practice leaves crew members exposed to hazards like ticks and unsteady terrain.

*(Continued on next page)*



CLOCKWISE FROM TOP LEFT: A visitor to the Finzel Swamp Preserve enjoys the scenery on a cold winter day. © Kent Mason; Director of Ecological Management Deborah Landau poses next to a newly installed sign at the Finzel Swamp Preserve. © Severn Smith/TNC; A visitor to the Nassawango Creek Preserve walks past the Maryland state champion bald cypress tree. © Kent Mason

## NATURE MARYLAND/DC



A burn crew member demonstrates the PyroShot launcher. © Drone Amplified

### Technology on the Fire Lines CONTINUED

With the IGNIS drone, burn crews are primarily responsible for burning and monitoring the perimeter of the burn unit, while the drone drops small incendiary spheres into the interior of the unit.

Along the same lines as the IGNIS, our burn crews have recently added another high-tech product to the toolbox. PyroShot is a gas-propelled, hand-operated mechanism resembling a paintball gun that launches incendiary spheres. Like IGNIS, PyroShot allows burn crews to more easily get fire into hard-to-reach places.

These and other technologies are leading to a high conservation return on investment. As early adopters that are willing to experiment with new and emerging technologies, TNC's on-the-ground conservation practitioners play an outsized role. Now partners are looking to us for new best practices.

To watch a video of IGNIS in action, scan the QR code.



## Introducing Flagship Preserves

The Nature Conservancy owns 25 nature preserves in Maryland, 15 of which are open to the public. When TNC acquires a parcel of land, we commit—both legally and ethically—to steward that land in perpetuity for both people and nature. In 2022, the Maryland/DC chapter initiated what we are calling the “Flagship Preserves Project.” Of the 15 preserves that are open to the public, we are focusing on a small subset of those preserves and partner sites that present the greatest opportunity to inspire visitors around our mission, vision and local conservation priorities.

The initial focus of this project has been to gain a better understanding of preserve visitation, visitor demographics and visitor experience. To do this, we are deploying people counters and exit surveys on several of our public preserves. Collecting these quantitative and qualitative data will help inform future strategies to improve visitation, recreation and education on our preserves, strengthening the connections between people and nature.

We want our preserves to be places that deepen and diversify support for TNC's mission to protect the lands and waters on which all life depends. Our ownership of hundreds of public nature preserves across North America is one of the biggest differentiators between TNC and other conservation organizations. In Maryland, we are excited to be taking steps to make our preserves more exciting and inclusive places.

To see a comprehensive list of local TNC preserves, visit [nature.org/mdplaces](https://www.nature.org/mdplaces)