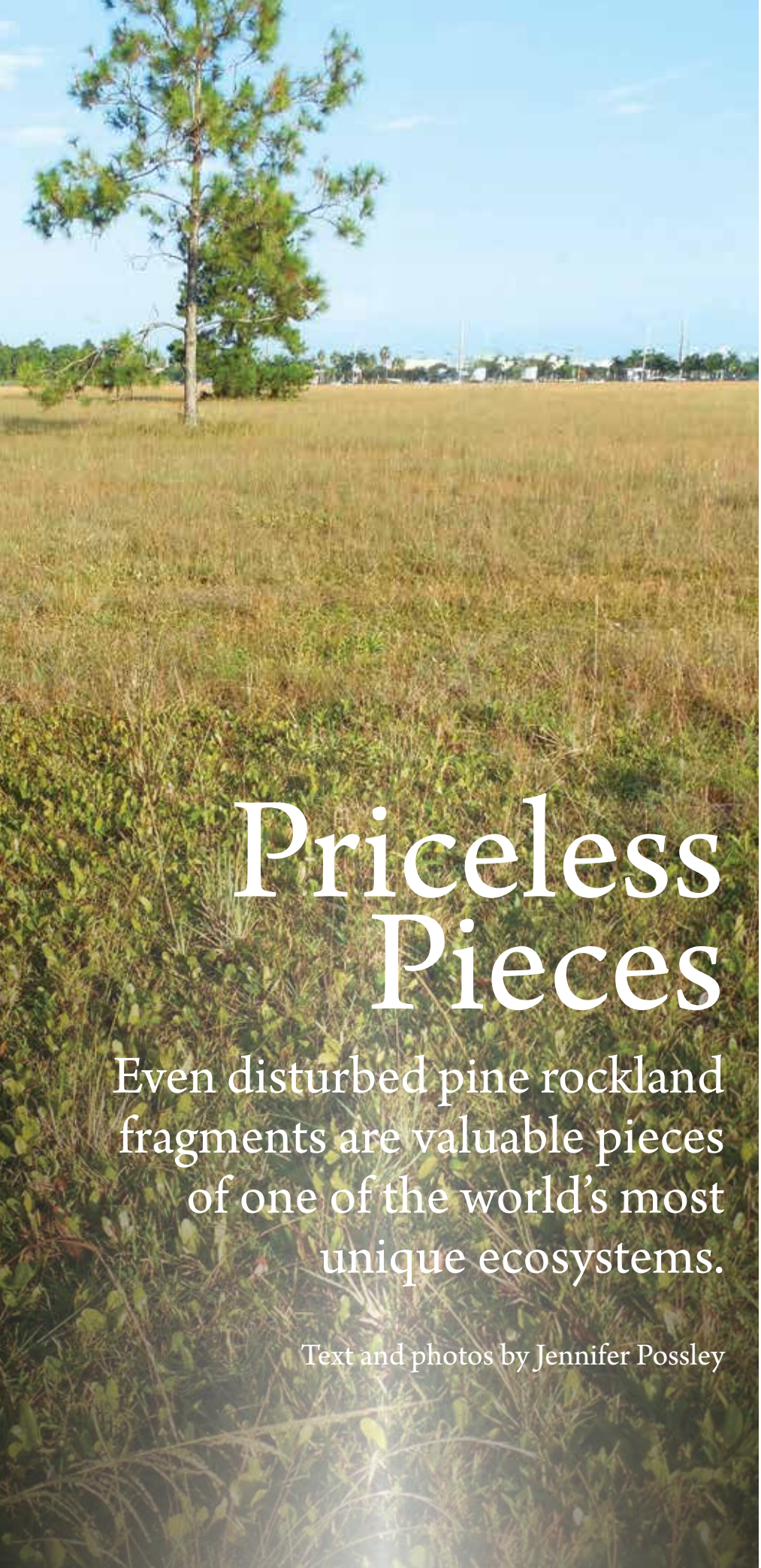

Priceless Pieces

Even disturbed pine rockland fragments are valuable pieces of one of the world's most unique ecosystems.

Text and photos by Jennifer Possley

Any visit to one of Miami-Dade County's pine rockland preserves is full of unforgettable treats, from the sight of lopsided Indian grass flower spikes nodding slowly in a September breeze, to the trills of Eastern towhees calling to one another across the palmettos. Unfortunately, almost 99% of Miami's pine rocklands have been lost to development, which continues today in this globally critically imperiled plant community.

The near-total destruction of Miami's pine rocklands during the past century has happened with relative ease, thanks in part to a persistent myth that "disturbed" pine rocklands are biologically worthless. Neglected tracts are seen as eyesores, slums or simply "empty." But most of the plants and animals that call pine rocklands home—including nine federally listed species—can still live out their lives in these imperfect urban forests. With pine rockland habitat becoming increasingly rare, disturbed pieces are now more valuable than ever.

How do we save these pieces? The first step is to recognize them. The textbook definition of a pine rockland includes a pine tree canopy, a palmetto mid-story, a rich mix of grasses and herbs in the understory and limestone outcroppings. But Miami-Dade has an abundance of disturbed pinelands that are not so by-the-book and are thus harder to recognize.

The foreground of this scraped pine rockland in the Richmond area is covered by a six-inch-tall forest of gopher apple.

Today, with frequently burned pinelands so rare, these long-ago scraped pinelands can be important refuges for flora and fauna that require sunny, open habitat.

TOP
Native pine rockland species can persist for decades in disturbed pine rocklands. At least four native species are pictured here in this scraped area underneath power lines: butterfly pea, mouse pineapple, blue paspalum and three-seeded mercury.
Photo by Steve Woodmansee.

ABOVE
This fire-suppressed pine rockland is gaining shrubby hardwoods at the expense of understory grasses and herbs.

There are two major types of disturbed pine rocklands. First are **scraped** areas, where heavy equipment was used decades ago to scrape away vegetation and jagged limestone. These often look like old fields and can be found under power lines, alongside railroad tracks or canals and in vacant lots. Many of these scraped areas likely will never again support saw palmetto, pine rockland's most common shrub species. However, because pine rocklands hold most of their plant diversity in the understory—more than 300 species—the loss of one species is not catastrophic. In fact, most of the diverse plants that make pine rocklands special are still present in scraped pinelands. This includes some of the rarest plants, such as deltoid spurge and Carter's sand flax. Today, with frequently burned pinelands so rare, these long-ago scraped pinelands can be important refuges for flora and fauna that require sunny, open habitat.

The second type of disturbed pine rocklands are those that are **fire-suppressed**, meaning that fires have not been allowed to burn in the area for years. Pine rocklands are dependent on, and thrive with, fire—so without fire every three to seven years, a parcel can begin to transition to a hardwood-dominated forest or to a stand of exotic plants such as Burma reed or Brazilian pepper. But fire-suppressed parcels are far from doomed. Like scraped pinelands, they also provide critical habitat for native plants and animals. Some understory plant species can persist for decades without fire (though they will rarely reproduce). Even dense weeds can be conquered, and the combination of chainsaws and fire can release the soil seed bank and diverse herbaceous layer from the smothering pressure of overgrown hardwoods. When partners like Miami-Dade County's Natural Areas Management Division, the Florida Forest Service or The Institute for Regional Conservation work together to remove exotic vegetation and reintroduce fire to a preserve, a pine rockland can be reborn, seemingly overnight, through a process known as ecological restoration. In short, fire-suppressed pine rocklands can almost always make a complete recovery.

ABOVE
For both adults and kids, visiting pine rocklands means learning about the natural world around us, gaining a greater understanding of what makes Miami unique and fostering a desire to protect what is left.

RIGHT
Portions of Larry and Penny Thompson Park was once choked with dense Burma reed, but you would never know it visiting these beautifully restored areas today.

> ...wild areas within our cities remind us that there is a natural world out there and we are part of it.

It should be noted that, even without restoration, both types of disturbed pine rocklands have high intrinsic value. Native "weeds" such as Spanish needle are vital nectar sources for pollinators, and dense forest growth provides cover and sustenance for animals such as foxes, marsh rabbits, gopher tortoises, birds and beneficial insects. Disturbed pine rocklands can and do provide habitat for federally endangered species like the Florida bonneted bat and Bartram's hairstreak butterfly.

It is not just wildlife that can reap the benefits of disturbed pine rocklands; humans need these areas, too. Even a disturbed forest will do a fine job of absorbing carbon dioxide, producing oxygen and replenishing our aquifer. On a less-tangible level, wild areas within our cities remind us that there is a natural world out there and we are part of it. Increasingly, research suggests that exposure to nature is important for our physical and mental well-being, perhaps especially for children.

With so few pieces of pine rockland left in Miami-Dade, it is not always clear how to see them for yourself or how to help preserve them. Step one is to simply become aware of remaining wild lands near your home and work. On the next level, you may wish to volunteer with Miami-Dade's Environmentally Endangered Lands Program or The Institute for Regional Conservation, or plant a Connect to Protect Network garden. By building awareness and debunking myths about pine rockland fragments, we can encourage Miami-Dade residents, legislators and developers to save what remains. After all, in an area with so little nature left, every piece is priceless.

Thank you to Steve Woodmansee for helpful suggestions in this article, and to Bruce Greer for suggesting the topic. Learn more about the Connect to Protect Network at www.fairchildgarden.org/Science-Conservation/Connect-To-Protect-Network. To learn more about programs mentioned in the last paragraph, contact lnieratka@regionalconservation.org for IRC, eel@miamidade.gov for county volunteer workdays or dpowell@fairchildgarden.org for the Connect to Protect Network.