SUMMER 2015

Friends of Ironwood Forest

Photo by Scott Roederer

Feature Article!

Natural History & Archaeology of IFNM

Starts on page 2.

What is IFNM's hottest lizard? Find out on page 6.

Traveling down a new path

It's an important year for the Friends of Ironwood Forest (FIF), Ironwood Forest National Monument (IFNM), and the National Conservation Lands system.

As you know, the Friends are traveling down a new path. That path is called "An All-Volunteer Organization," and it is exciting and scary! Adjusting to our new reality, while moving our organization forward, is a challenge, but we believe we've made progress in many areas.

Our mission is the same, and our work with the Bureau of Land Management (BLM) and other interested groups to better IFNM is our priority.

Recently the Friends had significant input into development of the new Resource Management Plan Implementation Strategy, presenting us the opportunity to shape its direction and help in its implementation. Now that the Transportation Management Plan is approved, the Friends would like to develop trails and has taken the first steps toward helping this happen. New work projects for Friends volunteers will be developed as trail plans move forward.

The Transportation Plan and the development of trails are opportunities to make the Monument a better place to visit, and that is only one of our goals. We hope you'll continue to be a part of this exciting new chapter.

This year is also the 15th birthday for IFNM and the Conservation Lands System. IFNM is a part of a large system of public lands (lands we, the American people, own) and celebrations are planned throughout the system. The National Conservation Lands system is administered by the BLM and moves that agency into conservation management in a greater way than in the past. You will be hearing more about the exciting year ahead and what plans the Friends have to celebrate IFNM.

Thank you for caring about IFNM and for trusting the FIF to be a voice for its protection. The board looks forward to our challenge and hopes all who read this newsletter will step forward to help.

Your Board of Directors,

Jim Avramis, Tom Hannagan, Gaile James, William Thornton, and Kelsey Yule

Archaeology and Cultural History of IFNM: Introduction

by Royce Ballinger and Allen Dart

The publication of an article in the bulletin of Old Pueblo Archaeology Center marked the first time a summary of past cultures that called Ironwood Forest National Monument (IFNM) home was available to the public.

Allen Dart, Registered Professional Archaeologist and Executive Director of the Center, presented a broad overview of this topic in a talk at the November 2014 "Meet the Monument" event sponsored by the Friends of Ironwood Forest.

In preparation for his talk, Allen reviewed studies and documents, counting the number and types of sites. To preserve his efforts, he asked Royce Ballinger, PhD, and Michael Heilen, PhD, RPA, to join him in authoring the paper.

This nicely illustrated arttcle summarizes cultures in south-central Arizona from the Paleoindian Period (ca. 11,000 B.C.) to the Historic Period ending 50 years ago.

About 20 percent of IFNM has been surveyed for cultural resources. Observations on 262 sites represent primarily the post-Paleoindian cultures of the nonriverine residents for the past 10,000 or so years.

Photo by Allen Dart

Other topics include:

- an overview of geography and natural history
- kinds of archaeological sites
- importance of IFNM for scientific research
- cultural resource management today
- heritage and continuity of cultures
- sources of site names.

Editor's note: Our feature article, beginning on the next page, is excerpted from an extensive paper published in the bulletin of Old Pueblo Archaeology Center (Number 73, February 2015, pp 1-19) and is used here by permission. A link to the full article appears at the end of our article.

About Old Pueblo Archaeology Center

Old Pueblo Archaeology Center is a non-profit organization based in Tucson. Its mission is to foster an understanding of and appreciation for archaeology and other cultures and to support the preservation of archaeological and historical sites.

To learn more about the Center, follow this link: www.oldpueblo.org

Natural History, Archaeology, and Cultures of Southern Arizona's Ironwood Forest

Royce E. Ballinger, PhD, Allen Dart, RPA, and Michael Heilen, PhD, RPA

Ironwood Forest National Monument (IFNM) is northwest of Tucson in the Basin and Range geological province of southwestern North America. The major features are mountains and valleys, oriented from the southeast to northwest, that have a complex geological history involving volcanic eruptions, stretching and faulting, sea-bed uplifting, and erosion.

The perimeter of IFNM contains 189,000 acres including 60,000 acres of Arizona State Trust lands and private in-holdings. It was created by Presidential proclamation (#7320) in June 2000 and is managed by the Bureau of Land Management (BLM) as part of the National Conservation Lands System created in 2009. This system complements the National Park and National Wildlife Refuge Systems to conserve about 28 million acres of public lands for future generations to enjoy the natural and cultural values they contain.

There are eight mountain ranges (Roskruge, Pan Quemado, Waterman, Silver Bell, Ragged Top, Samaniego Hills, West Silver Bell, and Sawtooth) and two large valleys (Avra and Aguirre) with elevations from 1,559 to 4,195 feet. The area has undergone increasing aridity, higher temperature, and a changing set of plants and animals over the past 13,000 to 20,000 years. Near the end of the Pleistocene, the environment was relatively moist with many streams and marshy areas within a grassland and pine-oak woodland. The now extinct megafauna included mammoths, giant bison, American horses, tapirs, dire wolves, and large jaguars, among other large mammals that were the staple of the Paleoindians. By 8,000 to 10,000 years ago this relatively lush vegetation was gradually replaced by more arid-adapted plants and animals as the megafauna became extinct.

IFNM is situated in the northeasternmost part of the Sonoran Desert that is dominated by cacti and leguminous trees. The great diversity of plant life compared to other North American deserts owes to the biseasonal pattern of rainfall (total annual average of about 10 inches, equally divided between winter and summer rains) and the subtropical climate of relatively rare winter freezes. Two of the five subdivisions of the Sonoran Desert are present. About 55 percent of IFNM consists of the Arizona Upland subdivision with the remainder comprising the Lower Colorado River subdivision. Almost 600 different taxa of plants have been recorded in IFNM including one endangered species, Nichol's Turk's head cactus. Another plant of the four o'clock family, Mexican devil's claw, occurs on

Archaeological site in IFNM. Photo by Allen Dart

Ragged Top and nowhere else in the United States. It is 232 miles north of its nearest locality in Sonora, Mexico.

The Colorado River subdivision is an extension of the flood plains and flats that surround the Colorado River. Today it is dominated by grasses, mesquite trees, various bushes (the creosotebush being the most iconic), a few cacti, and a plethora of wildflowers in years of abundant rainfall. The Arizona Uplands have a greater variety of plant species.

The namesake plant, desert ironwood, occurs abundantly on the slopes and bajadas of desert mountains, although this tree is more common in the drainages of the drier flatland habitats farther west. Studies have revealed its keystone role in IFNM with over 500 species of plants and animals dependent on this tree, which is long-lived (to 800 years or more) and slow-growing. Its dense wood will not float in water and has been harvested for charcoal and carvings. Native peoples ate its beans and used its wood in a variety of ways, as do many animals from insects to birds and mammals. It provides nesting sites and shelter for birds as well as forage and browse for deer and bighorn sheep. Its roots harbor symbiotic nitrogen-fixing bacteria that enrich the soil and its cover serves as a nurse plant for seedlings of many plants and cactuses. During its month-long bloom near the end of spring, the flowers are a favorite of bees, bugs, and beetles that in turn are eaten by birds and lizards that are then eaten by snakes and mammals, etc.

Other prominent plants of the Arizona Uplands include two species of palo verde: blue palo verde along washes and major drainages and foothill palo verde on bajadas and mountain slopes. These trees are short-lived (100-150 years) and fast-growing with soft wood useful only as firewood, but the beans are edible and consumed by many animals and people. The iconic saguaro is a prominent feature of the Uplands. These cacti reach to 40-50 feet in height with 20-30 arms over their 200+ year lifespan. Flowering in late spring, the saguaro feeds many pollinators, including the endangered lesser long-nosed bat, and results in fruits that are eaten by numerous animals including native peoples in early summer. The internal woody ribs were used extensively for construction well into the American Pioneer period. Many plants, too numerous to detail here, occur that were variously used by native cultures for food, fiber, drink, medicine, personal items (e.g., soap, tools), in ceremonies, etc.

Animals found in IFNM represent most species that are common in the Sonoran Desert, except no pronghorn have been recorded recently. The desert bighorn sheep in IFNM represent one of the few native herds. Most herds in the Southwest represent reintroduced populations. The Sonoran Desert tortoise is

Saguaro and desert ironwood nurse tree, IFNM. Photo by Scott Roederer

common in IFNM and like the bighorn sheep was a unique and important resource for early people. Six species of poisonous snakes occur in IFNM including five rattlesnakes. The Gila monster, the only poisonous lizard in the United States, occurs here. A large number of bird species are present including the white-winged dove that migrates from the south to feed on the saguaro flowers and fruit. An unknown number of invertebrate animals occur, but perhaps none more important than termites that hasten the decay of dead trees, an otherwise slow process in the dry climate.

Clearly, the varied plants and animals provided a wide range of resources for human

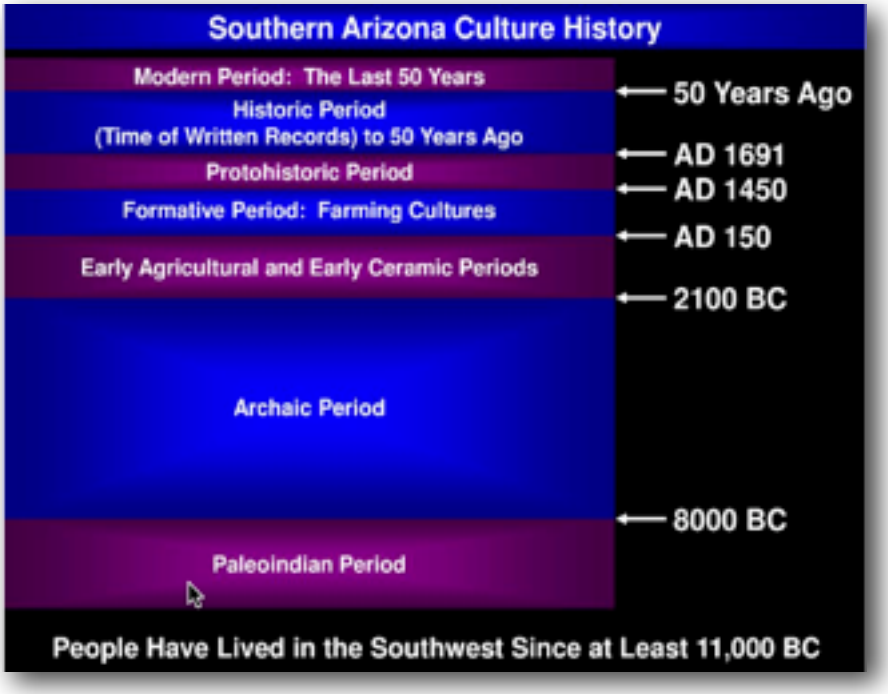
cultures that developed here over the years as elaborated below.

A Procession of Cultures in the Ironwood Forest

Archaeologists have identified several successive human cultures that have inhabited the Monument area for the past several thousand years. In order to put what is known about the kinds of archaeological sites in the Monument, it is useful to provide some cultural context about the procession of cultures in southern Arizona generally. The major archaeological cultures that have been identified here are, in chronological order, the Paleoindian, Archaic, Early Agricultural, Early Ceramic, and Hohokam, spanning over 12 millennia from approximately 11,000 BC to AD 1450 (see illustration). Following the collapse of Hohokam culture, the time from about AD 1450 to 1700 is often referred to by archaeologists of this region as the "Protohistoric" period, and the period from 1700 until 50 years ago generally is referred to as the Historic period. The last 50 years is considered the Modern period.

Cultural Resource Management Today

Clearly, the IFNM has been a land of many uses, and as a national monument will continue to be used for multiple purposes. Lands within the IFNM at different points in time have been part of a variety of distinctive cultural landscapes, including foraging and farming landscapes, landscapes of Spanish missionization and colonial interactions, ranching landscapes, and mining landscapes. For thousands of years, cultural activities have transformed the physical environment of the IFNM, creating archaeological sites and features and inscribing the activities of people on the land. It should come as no surprise, therefore, that the monument is recognized with three separate entries in the National Register of Historic Places, our nation's foremost listing of important historic properties: The Los Robles Archaeological District, the Cocoraque Butte Archaeological District, and the Mission Santa Ana del Cuiquiburitac archaeological site all are included in the National Register.



The scientific and heritage values associated with cultural resources in the IFNM need to be considered in planning how the IFNM is used. As it is used for recreation and other purposes, we need to be especially careful to respect and protect archaeological sites in the IFNM and the cultural heritage they represent. Unauthorized collection of artifacts, digging at archaeological sites, and adding initials to petroglyph panels on the IFNM can cause irreparable harm to these important sites and landscapes, destroying evidence of the past and diminishing our ability to understand how these lands have been used over centuries and millennia. As noted, many of the sites on the IFNM consist of scatters of artifacts and human-made features.

Our best advice is to enjoy what you see and take pictures and notes if you like, but leave things as you find them. This will allow their scientific and heritage values to remain intact and for others to enjoy the resources of the IFNM as you have.

To read the full article, which includes in-depth information on the cultures that lived in IFNM, and to see photos of artifacts, click on the link below.

https://dl.dropboxusercontent.com/u/32727110/201502%282013%231%29opa73IronwoodForest.MHEDITS.pdf

Desert Iguana

by

Royce
Ballinger, PhD

Eighteen species of lizards occur in Ironwood Forest National Monument (IFNM). All but one of these are active in the daytime. The small western banded gecko is active only at night. Diurnal species may occur in specific microhabitats such as on rocks, in sandy areas, or in trees. Some occur in several habitats. These lizards are easily located on any visit to IFNM during the warm season of the year.

The desert iguana (*Dipsosaurus dorsalis*) is one of those species that can be seen on any hot summer day, even in midday when it's too hot for other lizards. They are common in creosotebush flats with sandy soils or in rocky areas at the base of hills.

Desert iguanas are the second largest lizard species in IFNM with the maximum total size of adult males exceeding 15 inches (396 mm) and a body size of about six inches (144 mm). This brown, gray, and white lizard has a blunt nose and a long, stout tail. There is a single row of enlarged keeled scales that extend from the neck to the base of the tail, forming a crest along the back. For this reason, it is sometimes referred to as the crested lizard.

The short legs are muscular and capable of propelling this lizard at very fast speeds across open spaces and roadways. They are nevertheless able to climb the wispy creosotebush in search of fresh flowers to eat. Like many of the large iguanine lizards, *Dipsosaurus* (Greek for hungry or thirsty lizard) is predominately vegetarian. Although it will occasionally eat insects, spiders, and carrion, its preferred food appears to be creosotebush flowers and leaves. It also feeds on the blossoms of early spring flowers.

Dipsosaurus is distributed from about Death Valley in eastern California southward through southeastern California, southern Nevada, southwestern Arizona, and into Mexico as far as northern Sinaloa. It also occurs in Baja California and on several islands in the Sea of Cortez. IFNM is near its eastern distributional limit.

In IFNM these lizards are active from early spring to mid-autumn depending on seasonal temperatures. They are active during the hottest part of the day when most other lizards have sought cooler temperatures. Desert iguanas are known for their high body temperatures of about 45º C (113º F). This is the highest average body temperature of any lizard in the United States.

Lizards maintain a high body temperature by shuttling back and forth from sun to shade. With a body temperature usually exceeding 110º F, is it appropriate to label lizards as "cold blooded"? It is probably best to refer to most reptiles as ectothermic, meaning that their body temperature is determined by means external to their body, as opposed to endothermic animals, such as birds and mammals, that generate body heat internally though muscle activity.

Breeding occurs in April to May. A clutch of three to eight eggs is laid in early summer, with hatching occurring in late summer. Their average maximum life span is about 15 years. Although they may live longer in captivity, they do not make very good pets.

Become a member of Friends of Ironwood Forest Today

We care about IFNM. We hope you do, too. We rely on the financial support of members to help us with our mission of protecting the resources of IFNM, enhancing the visitor experience there, and creating awareness.

Please join FIF today.

Basic membership is $35, but additional contributions help us with our efforts.

Contribute online with a credit card or PayPal at:

www.ironwoodforest.

or on Facebook

or by sending a check payable to Friends of Ironwood Forest to:

738 N. 5th Ave., Suite 114
Tucson, AZ 85705

Be sure to include your name, address, and email address.

Thank you!

In the next newsletter:

Mistletoe: Friend or Foe? Kelsey Yule gives us her answer.

Barrels of fun in Bill Thornton's article on IFNM's barrel cacti.

All the news about the Meet the Monument event. Don't miss it!

Volunteer opportunities

As you know, we are an all-volunteer organization. We send emails throughout the year when we need help with projects such as buffelgrass control and organizational help with our annual Meet the Monument event, but Friends can use any talents you may want to share. Conact Gaile James at gaile@ironwoodforest.org.

Your time and talents will be appreciated and will help us preserve IFNM.

New volunteers

Volunteers are the greatest asset of an organization like ours, and we have three exceptional new volunteers—Gene McCormick, Julie Roederer, and Scott Roederer.

Gene McCormick previously served on the board and has now volunteered to be our Communications Coordinator. We are delighted to have his talents working for the Friends and look forward to enhanced communications.

Scott and Julie Roederer have volunteered to edit and produce our newsletters. They have great ideas and the skills to carry them out, as you can see by this newsletter! The board welcomes their help and talents.

Upcoming Events

Sept. 26 National Public Lands Day
Work in the morning in IFNM and lunch is on us.

Nov. 14 Meet the Monument
Join us for wonderful speakers, fun hikes, and interesting nature walkabouts. A great time in IFNM!

Contact us with questions, feedback on newsletter articles, or anything that's on your mind. Visit us on Facebook or email us at mailto:info@ironwoodforest.org

Young fire barrel cactus. Photo by Scott Roederer

2014 Members and Supporters

Thank you to everyone who donated to Friends of Ironwood Forest. Because of your generosity, we met our $15,000 challenge match for fiscal year 2014. This was a huge accomplishment and would not have been possible without your dedication and caring.

Also because of you, we are able to continue as an all-volunteer organization. Your generosity and love of Ironwood Forest National Monument is doubly appreciated.

The people and organizations listed here donated last year. As an all-volunteer organization we're still learning. If your name should have been on this list and isn't, please let Gaile James, Board President, know at gaile@ironwoodforest.org. We want to rectify any mistakes and apologize, in advance, for any omissions.

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Our Mission: Friends of Ironwood Forest is a local non-profit organization that works for the permanent protection of the biological, geological, archaeological, and historical resources and values for which the Ironwood Forest National Monument was established. The Friends provides critical volunteer labor for projects on the Monument, works with the Bureau of Land Management and many other partners, and strives to increase community awareness through education, public outreach, and advocacy.