Naturally Kentucky

Spring 2005 Number 46

KSNPC Latest News:

The Commission has partnered with La Voz de Kentucky, a regional Spanish-English bilingual newspaper, to publish natural heritage articles in the paper every month. The partnership offers a new avenue for outreach and education efforts. The series began in March with an article (page 2) on the ecological links between Kentucky and Latin America.

KSNPC has a new Commissioner. Governor Fletcher recently appointed Mrs. Joy Hawkes, of Louisville, Commissioner of the KSNPC. Commissioner Hawkes previously taught in the Trimble County school system and will be representing the state at-large.

114 acres of land has been added to the State Nature Preserve System (108 acres at Jim Scudder State Nature Preserve and six acres at Blanton Forest State Nature Preserve). Additionally properties in Warren, Madison and Russell counties were enrolled in the Natural Registry Program. (Complete story on page 4)

To help celebrate Earth Day in Kentucky spring hikes are scheduled for a number of the State Nature Preserves. Visit our News & Events webpage to learn more (www.naturepreserves.ky.gov/newsevents).

Even with the wet spring, prescribed burns have been successfully conducted at Crooked Creek, Blue Licks, Blackacre, Julian Savanna, Eastview Barrens and Bouteloua Barrens. See photos of the spring burns on page 5.

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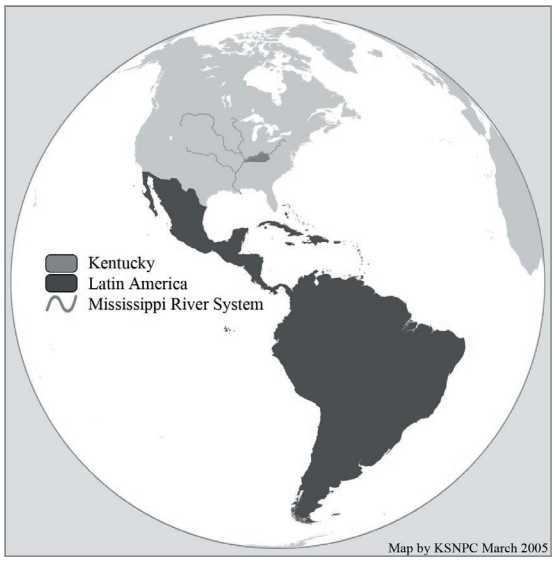
Carpenter Cave ~ John Newman

Across the Americas: Kentucky's Ecological Link to Latin America

By Greg Abernathy, Ronald Cicerello, Marc Evans and Deborah White

Although Kentucky is separated from Latin America by a distance of nearly one thousand miles to several thousand miles, there are numerous connections between these two geographies. Since the early 1990s there has been a continual rise in the number of Latinos living and working in Kentucky, an influx that has resulted in a changing cultural landscape. These two geographies are connected by much more than people, however. The human migration between these areas is a more recent phenomenon, whereas ecological connections have existed for tens of thousands of years.

Both Kentucky and Latin America have rich and unique biodiversity (the variety of life and its interactions). Kentucky is located in one of the most ecologically diverse regions in the United States. The region has high numbers of freshwater and terrestrial species, is home to numerous endemic species (plants and animals that only occur naturally in a specific and limited area) and contains a wide variety of natural communities (habitats) from mountains to broad wetlands plains. Latin America's ecological uniqueness is unparalleled around the world. The biologically rich upland and lowland rainforests, high elevation mountain and desert ecosystems, diverse subtropical conifer forests, numerous endemic species and high plant and animal species richness make Latin America globally significant. These regions share more than individual ecological uniqueness; they are connected by species migration patterns, shared species and similar habitats in an interconnected transcontinental landscape that is critical to the survival of numerous species.



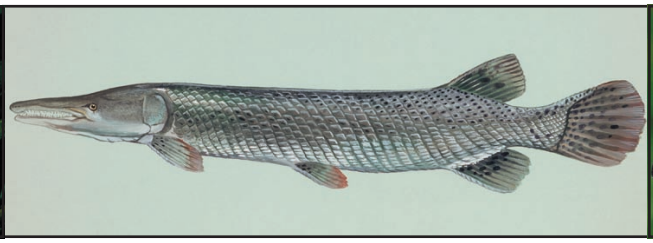
A number of plant and animal species are found in both Kentucky and Latin America. A few plants that are endangered in Kentucky are common in tropical Latin America; most of these are tropical aquatic species like Blue Mud-plantain and Burhead. These Kentucky populations are at the northern edge of their distribution and trying to adapt to cooler conditions that are less ideal than in their southern habitats. The Mississippi River serves as a northern conduit for the distribution of plants from the tropics. Water birds play a role in panding plant species ranges; they are well known for moving plants from swamp to swamp.

Several kinds of fishes and mussels also are found both in Kentucky and Latin America. The Alligator Gar, Striped Mullet and Giant Floater are a few of the aquatic animals known from both regions. Alligator Gar live in pools and backwaters of large rivers, swamps and lakes from Costa Rica north to the Ohio River valley and Kentucky; diners in Mexico may know this species as the popular dish Rico Catán. Normally found in coastal areas nearly worldwide, the Striped Mullet swims up the Mississippi River to Kentucky during droughts. The Giant Floater is a freshwater mussel found in swamps, ponds and large rivers from the northern United States south into Mexico.

Although most of Latin America is tropical to sub-tropical, there are areas in the highlands and mountains that have a climate similar to Kentucky. In some of theses areas, specifically the highlands of Mexico and Guatemala, there are forests very similar to those of eastern Kentucky. These forests are Temperate Deciduous Mesophytic Forest, a type of forest considered to be the most biologically diverse temperate forest in the world. Although thousands of miles apart, these temperate forests share a number of plant species including trees such as White Pine, Black Cherry, Sweetgum, Flowering Dogwood and Redbud.

One of the most significant and direct connections between Kentucky and Latin America is the yearly migration of butterflies and birds between the two regions. The most significant butterfly migration is that of the Monarch. Monarch butterflies breed in North America and each year millions of them migrate over a thousand miles to overwinter primarily in one small region of southern Mexico. Bird migration between these two regions is represented by Neotropical migrants, birds that breed in North America and spend the nonbreeding season in Mexico, the Caribbean and Central and South America. Each year Neotropical migrants such as Cerulean Warblers, Indigo Buntings, Scarlet Tanagers, Baltimore Orioles and Wood Thrushes come to Kentucky to nest and breed, and then return to Latin American countries for the nonbreeding season. Millions of Neotropical migrants make the yearly journey traveling thousands of miles during the flight; some species travel as far south as the Andes. These birds typically migrate as individuals and fly during the night.

Blue Mud-plantain ~ Margaret Rhinehart, TN Native Plant Society



Alligator Gar ~ Duane Raver from USFWS Digital Library System

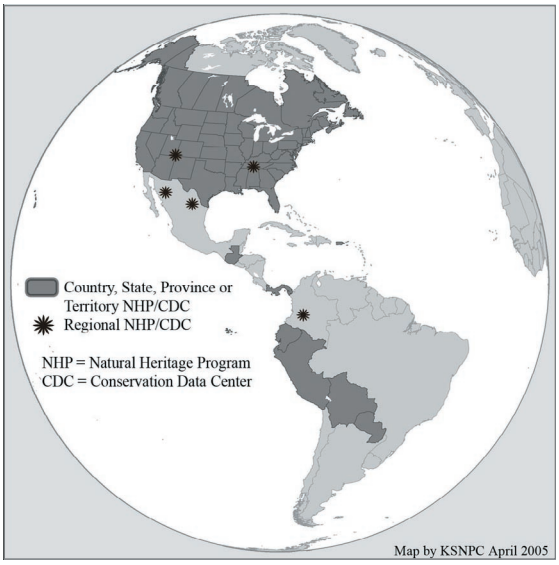
Monarch ~ L.D. Gibson

All species depend on good quality natural habitat where they live and along their migratory paths. Species habitat and migration corridors are under increasing pressure from human population growth throughout the transcontinental landscape between Kentucky and Latin America. Habitat fragmentation and degradation are occurring at unprecedented rates. Land conversion (forest clearing, wetland draining, etc.), resource extraction (logging, surface mining, etc.), land use practices (agricultural applications of fertilizers and pesticides, dams, etc.) and urbanization (urban sprawl, road building, power line corridors, etc.) have dramatically altered the landscape and imperiled countless species. Fragmented and degraded landscapes result in limited habitat for native species. As the natural landscape is degraded it begins to lack the ability to perform ecological processes, tends to increase the spread of invasive species (species that occur outside their natural range) and results in diminished ecosystem services (drinking water, clean air, medicinal extracts, etc.).

Satellite Data © NASA - Visible Earth 2004

There are a number of conservation-based organizations working across the Americas to protect irreplaceable endangered plants, animals and ecosystems throughout the region. One of the largest networks is the international natural heritage network headed by NatureServe. This network includes Natural Heritage Programs and Conservation Data Centers across Canada, the United States and Latin America, all contributing data to the same conservation database. The Nature Conservancy and the World Wildlife Fund are two of the larger international not-for-profit organizations spearheading land conservation, research and coordination of resources for conservation activities across the Americas. Additionally, organizations such as Pronatura (Mexico), Defensores de la Naturaleza (Guatemala) and Pro-Naturaleza (Peru) make significant regional contributions. Although these organizations play a significant role, conservation efforts must involve local individuals, communities and organizations to conserve biological and ecological riches shared by all throughout the region.

Public awareness, understanding and support of our shared natural heritage is essential to maintaining the rich biodiversity of this interconnected transcontinental landscape. To learn more about rare species and natural communities, conservation efforts and the Natural Heritage Network visit the following Web sites:



Species and Community Information:

· KSNPC Species and Community Info - www.naturepreserves.ky.gov/inforesources/SpeciesCommunityInfo.htm
· USFWS Endangered Species Program - http://endangered.fws.gov
· NatureServe Explorer - www.natureserve.org/explorer
· InfoNatura - www.natureserve.org/infonatura

International Conservation Organizations:

· NatureServe - www.natureserve.org
www.natureserve.org/espanol/index.jsp
· Natural Heritage Network - www.natureserve.org/visitLocal/index.jsp
· The Nature Conservancy - www.nature.org
· World Wildlife Fund International - www.panda.org
· Partners in Flight - www.partnersinflight.org
· Society for Conservation Biology - www.conbio.org
· Conservation International - www.conservation.org

Wood Thrush ~ Steve Maslowski, USFWS

This article was published in a three part series in La Voz, a regional bilingual Spanish-English newspaper. The translated pages along with photos and maps are on our Web site:
www.naturepreserves.ky.gov/inforesources/LAconnection.htm

LA VOZ De Kentucky

Annual Spring Equinox Outing a Success

By Kyle Napier, Southern Regional Nature Preserve Manager

This year's Kentucky Sierra Club spring equinox service trip occurred on Saturday, March 19 at the James E. Bickford State Nature Preserve in Harlan County. Twenty-four dedicated Sierra Club volunteers converged on this remarkable nature preserve located on the steep north slope of Pine Mountain at the Pine Mountain Settlement School. Their goal was to improve conditions on hiking trails that for many years have been in a constant battle against gravity. To make matters worse, a large herd of elk has recently taken a liking to the trails and surrounding mountainside. These large animals are causing unexpected erosion problems to the trail system.

The volunteers really got a workout as they constructed many rock steps and water bars on the steep, almost vertical slopes. The trails on the side slopes were widened and the edges were cribbed with cedar posts. All this work should aid greatly in stabilizing these trails for years to come. A section of the Lower Dogwood trail was also cleared and reopened after several years of closure.

It was a beautiful spring day and all planned projects were completed successfully. Afterward the volunteers retired to the "Big Log" on the main campus of Pine Mountain Settlement School for food and rest. On behalf of the Commission and Pine Mountain Settlement School, thanks again to the Sierra Club members for all their hard work.

Land Protection Report

By Ron Scott, Land Protection Specialist

By the time you read this report, spring will have already sprung, but as I am writing it here on St. Patrick's Day, we are several days short of the vernal equinox and there is still quite a bit of chill in the air. For our biologists, March marks the beginning of "field season" and for our stewardship staff, the month long, early "burn season." Rather than seasonal cycles, however, the intensity of our land protection activity ebbs and flows with the vagaries of landowner receptivity, and to some extent the availability and pursuit of land acquisition funding. Often there are months spent setting up acquisition opportunities, followed by more months of shepherding the deal through the state's land acquisition process of appraisals, title opinion, offer and acceptance, survey, deed preparation and closing. Depending on the timing and the number of pending land protection projects in any particular quarter, there can be a flurry of new additions to the state nature preserve system or relatively few.

Although I would characterize this past quarter as somewhat slow, at the past meeting of the Commission on March 2 we did dedicate a 108-acre addition to Jim Scudder State Nature Preserve in Hardin County. This was a complicated acquisition with a number of title issues to be resolved but after two years of effort, this extremely important piece of property has been permanently protected. Additionally, the Commission approved two new preserve designs that will authorize staff to pursue land protection efforts at Camp Pleasant Woods in Franklin County and Bob Overton Cave in Christian County. Both of these sites support species listed under the federal Endangered Species Act (ESA). Endangered Braun's rockcress (*Arabis perstellata*) and Globe bladderpod (*Lesquerella globosa*), a federal candidate species, occur at Camp Pleasant Woods. Bob Overton Cave harbors Indiana bats (*Myotis sodalis*) and gray bats (*Myotis grisescens*) – both listed as endangered under the ESA.

In terms of our recent protection actions, I am happy to report that we have just acquired a six-acre addition to Blanton Forest State Nature Preserve, and are working on several others that appear likely to result in success. Additionally, since the first of the year, we have enrolled in our Natural Areas Registry program new properties in Warren, Madison and Russell counties. The Natural Areas Registry is a voluntary, non-regulatory program designed to recognize the owners of ecologically significant land and encourage them to continue to exercise wise stewardship.

Also, thanks to the persistence and efforts of Joyce Bender, the Commission's Nature Preserves and Natural Areas Branch Manager, we expect to dedicate significant county-owned additions to our Pilot Knob SNP in Powell County and Lower Howard's Creek SNP in Clark County at the June Commission meeting.

Once again returning to the season and the burst of life and activity that accompanies spring, I would heartily recommend that you take the time this year to visit one of the special places that have been permanently protected by the Commission on your behalf. A directory of the state nature preserves system is available on the Commission's web site: www.naturepreserves.ky.gov.

Prescribed Fire Photos

(Left) Igniting prescribed burn at Julian Savanna SNP.

(Right) Controlling cedars with prescribed fire at Blackacre SNP

It's All New To Me

By Leslie Isaman, Administrative Specialist

I came to the commission in December of 2004 as member of the Director's office. The previous 10 years had been spent with Kentucky Vehicle Enforcement in the Transportation Cabinet working in the office of Kentucky's leading drug interdiction and canine unit. As you may imagine, a completely different world awaited me. I'm replacing vocabulary words like 'interdiction' with 'invasive' and 'bulk seizure' has now become 'burn season.' To my delight I am among fascinating people who possess a myriad of talents and backgrounds. Like myself, KSNPC has welcomed several new staff members, and I'd like to take a moment and introduce them to you.

Alice Mandt: A Kentucky native who started with the commission in December of 2004, Alice majored in natural resources conservation and management at the University of Kentucky. She graduated in 2002 with a B.A. Alice now works in the Stewardship Branch and hopes to survive her first burn season.

Brian Yahn: Hailing from Ohio, Brian graduated from Eastern Kentucky University in December of 1998 with a B.S. in environmental resources. Since that time Brian has worked in Georgia, Texas, Tennessee, Florida and Ohio. He now works alongside Marc Evans in the Heritage Branch. Brian considers his most valuable piece of equipment to be his hand lens.

Jayson Mitchell: Originally from Kentucky, Jayson spent enough time in Monrovia, California to have graduated from Monrovia High School. Since returning to the Bluegrass, Jayson has worked for the state for 10 years. Jayson is assigned to the Director's office and is an integral member of the team. When you call the commission, its Jayson's warm voice that greets you.

Budd Veverka: Although Budd began life in Pennsylvania he certainly didn't stay long. Budd received a B.S. from Unity College in Maine in 1999 and is currently pursuing an M.S. through Eastern Kentucky University. His resume reads like a map of the United States: Pennsylvania, West Virginia, Montana, Georgia and Kentucky. At one point in his career Budd trapped and anesthetized black bears. For the present, Budd is an interim in the Stewardship Branch.

Beverly James: KSNPC's newest Stewardship interim is a Kentucky native and 2004 graduate of the University of Kentucky with a B.S. in natural resources conservation. It takes a bit of time to become acclimated to the commission and Bev seems to be adapting to her new challenges very quickly. She arrived just in time for burn season, a "trial by fire" to be sure.

In the Spotlight: Kentucky's Rare Species and Communities

Etheostoma microlepidum

Smallscale darter

KSNPC Status: Endangered

USFWS / NOAA Status: Species of Management Concern

General Description: A 2-3 inch long fish that is a member of the perch family (Percidae).

Habitat: Stream bottoms among cobbles, boulders and gravel in riffles in swiftly-flowing streams.

Range: Restricted to the Red River of western Kentucky and the middle Cumberland River basin in Tennessee.

Reasons for Listing: Habitat degradation and loss; small population size; limited range.

Photo by KSNPC Staff

Satyrium favonius ontario

Northern hairstreak

KSNPC Status: Special Concern

USFWS / NOAA Status: None

General Description: A butterfly that is a member of the hairstreak family (Lycaenidae).

Habitat: Wide variety of woodland edge habitats, but most often found in pine-oak woodlands and the edges of rich, mixed deciduous woodlands.

Larval Foodplant: Oaks (*Quercus spp.*), especially Blackjack oak (*Quercus marilandica*).

Flight Season: Mid May to late June.

Range: Much of the eastern United States, but populations are often localized with few individuals in many areas.

Reasons For Listing: Exists in a limited geographic area in Kentucky, and populations may be declining.

Photo by L.D. Gibson

Key to KSNPC Status Categories:

Endangered: A taxon in danger of extirpation and/or extinction throughout all or a significant part of its range in Kentucky.

Threatened: A taxon likely to become endangered within the foreseeable future throughout all or a significant part of its range in Kentucky.

Special Concern: A taxon that should be monitored because (1) it exists in a limited geographic area in Kentucky, (2) it may become threatened or endangered due to modification or destruction of habitat, (3) certain characteristics or requirements make it especially vulnerable to specific pressures, (4) experienced researchers have identified other factors that may jeopardize it, or (5) it is thought to be rare or declining in Kentucky but insufficient information exists for assignment to the threatened or endangered status categories.

Historic: A taxon documented from Kentucky but not observed reliably since 1980 but is not considered extinct or extirpated.

Delphinium carolinianum

Carolina larkspur

KSNPC Status: Threatened

USFWS / NOAA Status: None

General Description: A perennial herb that is a member of the buttercup family (Ranunculaceae).

Habitat: Rocky glades and barrens.

Flowering Period: Early May to late July.

Range: Throughout the southeastern and central U. S.

Reasons for Listing: Small and very few populations, limited to south central counties, showy plant that is likely to be reported.

Photo by Marc Evans, KSNPC

Limestone Flatrock Glade

KSNPC Status: Endangered

General description: Small areas of usually an acre or less where flat-bedded limestone bedrock is at or near the surface. Soil is thin to absent and is restricted to the edge of the outcrop or in slight depressions in the rock where it has accumulated over time. This habitat is very dry and hot in the summer and fall but can be saturated in winter and spring. This unique environment supports an unusual assemblage of plants, many of which occur only in this extreme environment. Several very rare plants occur in this community, such as Carolina larkspur, gladecress, fame flower, stemless evening primrose and butler's quillwort.

Photo by Marc Evans, KSNPC

Range: In KY this community is only known from small parts of the Mississippian Plateau (Pennyroyal Plain) in Logan, Simpson, Warren, and Hardin counties, and the outer Bluegrass, mainly in Bullitt Co.

Reasons for Listing: Very few high quality glades remain and they are small and easily impacted (many have had barns or out-buildings built on them or they have been used as places to dump trash or old farm implements).

Additional Resources:
KSNPC Species and Community Information ~ www.naturepreserves.ky.gov/inforesources/SpeciesCommunityInfo.htm
NatureServe Explorer ~ www.natureserve.org/explorer/
USFWS Endangered Species Program ~ http://endangered.fws.gov

Key to USFWS / NOAA Status Categories:

(US) Endangered Species Act of 1973

Endangered: ". . . any species . . . in danger of extinction throughout all or a significant portion of its range . . ." (USFWS 1992).

Threatened: ". . . any species . . . likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (USFWS 1992).

Candidate: Taxa for which the USFWS has ". . . sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened" (USFWS 1999).

Species of Management Concern: Species the USFWS believes are in need of conservation management.

Director's Notes

By Don Dott, Executive Director

The roar of winter that ushered in March did not get our prescribed burn season off to a good start, but I hope we will have drier weather soon. Fortunately, the late season snow that swept across the northern half of the state missed Raymond Athey Barrens State Nature Preserve in Logan County and a burn was conducted on March 15. Prescribed burns by their very nature operate on a tenuous schedule, as we must closely monitor wind speed and direction, relative humidity, temperatures and fuel moisture before the first Nomex suit is pulled from the back of the truck. Dave Skinner is our statewide prescribed burn coordinator, which is a major responsibility, requiring a lot of expertise and coordination with Joyce Bender, Lane Linnenkohl and Kyle Napier to schedule all of the burns against constantly shifting weather patterns.

The commission has put prescribed fire to good use, restoring natural communities not only at Raymond Athey Barrens, but Crooked Creek, Logan County Glade, Eastview Barrens, Blue Licks and several other preserves. Reintroduction of fire aids in the restoration of the unique mix of vegetation found in these communities, bringing us closer to what would have existed when fire was a more frequent element in the landscape. This spring season Dave is planning one of our biggest burns yet at the new Bouteloua Barrens State Nature Preserve in Lincoln County. This is a large grassland/barrens complex that has declined from a long absence of disturbance by fire. The native prairie grasses surviving here respond very well to fire, which at the same time reduces the competition from fescue and woody vegetation that seek to displace them.

Fire is being used more widely as its importance in the landscape has become better understood. The Daniel Boone National Forest is also expanding its use of fire, particularly to restore oak/pine forest ecosystems. They have two primary objectives - to recover from the pine losses inflicted during the last several years by the Southern pine beetle (*Dendroctonus frontalis*) and to improve oak regeneration. The Kentucky Department of Fish and Wildlife Resources in partnership with The Nature Conservancy, has used federal funding to hire a burn crew to facilitate more habitat restoration with fire on private lands.

However, as you well know, fire's effects on some animal species can be deadly, even for species dependent on the natural communities fire sustains. At the preserves where fire is frequently employed for restoration, we monitor the known rare invertebrate populations and rotate fire through smaller burn units to ensure that not all of the habitat is burned at any given time. When there are no known rare invertebrates for a site, we are still careful to rotate our burn units to avoid the possible annihilation of any invertebrate population. Caution and fire are inseparable partners in habitat restoration. It's a tool that is natural and irreplaceable, yet inherently dangerous and potentially abused. We employ prescribed fire with the greatest care – and have reaped impressive natural community recovery as a result.

KENTUCKY STATE NATURE PRESERVES COMMISSION

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Kentucky State Nature Preserves Commission
Quarterly Public Meeting
June 1, 2005
The location and time to be determined

How to contact the Kentucky State Nature Preserves Commission:
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Visit us online @ www.naturepreserves.ky.gov

It is the mission of the Kentucky State Nature Preserves Commission to protect Kentucky's natural heritage by: (1) identifying, acquiring and managing natural areas that represent the best known occurrences of rare native species, natural communities and significant natural features in a statewide nature preserves system; (2) working with others to protect biological diversity; and (3) educating Kentuckians as to the value and purpose of nature preserves and biodiversity.

The Environmental and Public Protection Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion or disability and provides, upon request, reasonable accommodations including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs and activities. To request materials in an alternative format, contact the Kentucky State Nature Preserves Commission at 801 Schenkel Lane, Frankfort, KY 40601-1403 or call 502-573-2886. Hearing-impaired and speech-impaired persons may contact the agency by using the Kentucky Relay Service, a toll-free telecommunication device for the deaf (TDD). For voice to TDD, call 800-648-6057. For TDD to voice, call 800-648-6065.

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