

SOLITARIUS

THE BELIZE RAPTOR RESEARCH INSTITUTE NEWSLETTER | WINTER 2012 | ISSUE 3



» IN THIS ISSUE

HIGHLIGHTED PROJECT:
Studying the Enigmatic
Solitary Eagle *page 5*

Record-setting raptor survey	2
Community Member of the Year	3
Adopt-a-nest: Solitary Eagle	3
Highlighted: Solitary Eagle	5



FEATURED NEWS



Solitary Eagle



Raptor road survey on the Hummingbird Highway

» THE LONGEST RAPTOR SURVEY CONDUCTED IN BELIZE

On November 5th, we set out to conduct the longest road transect raptor survey ever conducted in Belize. We started in San Antonio Village outside of the Mountain Pine Ridge in the Cayo District and ended in Punt Gorda of the Toledo District via the Western Highway, Hummingbird Highway, and the Southern Highway, totaling 172 miles in 4.5 hours of driving. We recorded 21 individuals (excluding vultures) of 7 species. They included 4 White-tailed Kites, 1 White Hawk, 6 Gray Hawks, 6 Roadside Hawks, 1 Broad-winged Hawk, 2 Laughing Falcons, and 1 American Kestrel. The most surprising sighting was a juvenile Broad-winged Hawk on the Hummingbird Highway, which is a rare transient and winter resident in Belize.



Workshop participants

» OUR FIRST RAPTOR IDENTIFICATION WORKSHOP A SUCCESS

Our first Raptor Identification Workshop was a success thanks to our guest instructor Bill Clark, the fantastic accommodations at Hidden Valley Inn, and all the great participants. Participants included 11 Belizeans and 7 Americans from the United States. During our three day workshop, we tallied 16 raptor species including the rare Orange-breasted Falcon, lingering Plumbeous Kites, many migrating flocks of Swallow-tailed Kites, numerous Great Black-Hawks, including one with a snake, both a juvenile and adult Ornate Hawk-Eagle, numerous Double-toothed Kites, all plumages of the King Vulture, a cooperative White Hawk, and a rare Stygian Owl.

Thank you to Bill Clark, Hidden Valley Inn, and all the participants for supporting us and our conservation efforts. We look forward to our second workshop (December 2012) and hope you will join us!

Participants included (listed from left to right and top to bottom in the photograph):

Louis Juan, Jonathan Urbina, Audrey Martin, Victor Gamez, Freddy Pineda, Andrew Bradshaw, Bill Clark (instructor), Michael Miller, Emil Gamez, Alicia De Toro, Jana Clark, Roni Martinez (Board member), Darwin Mai, Ryan Phillips (Executive Director), Rick Romero, Eric Tut, Philip Mai, Oscar Cisneros, Camille Meyers (not in photograph), and Ildiko Szabo (not in photograph).

Community Member of the Year: Randolph Howe

RANDOLPH HOWE FROM PROGRESSO VILLAGE, BELIZE, an employee of the Green Hills Butterfly Ranch, heroically rescued a Gray-headed Kite, a species that is little known in the wild. Randolph was driving his motorcycle to work when he observed a raptor tied up to a stake by its leg. Concerned, he stopped and asked the person in possession of this raptor what had happened. He found out that the raptor was injured after being hit by a rock from a sling-shot and this person was going to kill it because he claimed it was eating his chickens. Randolph convinced the man to give up the injured raptor. Randolph placed the raptor in his backpack and proceeded to drive to work where he showed his boss, Jan Meer-

man, Vice-president of BRRI, what he had found. Immediately, Jan contacted Nikki Buxton and Jerry Larder of the Belize Bird Rescue Center in Roaring Creek who took the kite in for care. The kite was held for a few days where it quickly recovered from bruising before being released on the expansive and well-forested Hidden Valley Inn property, owned by Trevor and Brian Roe. Hidden Valley Inn managers, Beverley



and Flavien Daguise, President of BRRI, assisted during the release, and were there to witness as the Gray-headed Kite soared over the rescuers and out of sight.

The shooting and rescue of this kite triggered us to produce an educational raptor poster, in partnership with The Center for the Study of Tropical Birds, Inc., The Belize Zoo, Blancaneaux Lodge, Belize Forest

Department, and Programme for Belize, displaying the importance of raptors and how they impact our daily lives.

NOT MANY INDIVIDUALS WOULD GO OUT OF THEIR WAY TO RESCUE A RAPTOR IN NEED, BUT RANDOLPH TOOK A FEW MINUTES OUT OF HIS DAY TO SAVE THIS JUVENILE GRAY-HEADED KITE WHO IS JUST TRYING TO SURVIVE IN THE MOST CHALLENGING YEAR OF ITS LIFE.

Up to 70% of juvenile raptors do not make it to their second year of life. With Randolph's courageous actions this juvenile has a chance to survive to adulthood.

Randolph has a passion for wildlife and is always looking out for the well-being of raptors and other animals. Due to his triumphant rescue of this Gray-headed Kite, we recognize him as the Community Member of the Year.

Keep up the great work Randolph and continue to be a role model for your community.

» IN MEMORY OF: E. Rae Hudspeth, MD.

During 2011, BRRI received two generous donations, one from Elaine Jacob and the other from Dean Schuler and Rich Kuehn, of \$1,000 each in memory of E. Rae Hudspeth, MD. Rae herself had been a donor to our organization as she believed in the work our organization was accomplishing, especially the fact we're adding knowledge for future generations.

Rae was a long-time birder and supporter of Audubon chapters in California and Michigan. Dean and Rich met E. Rae in 1989 in California and in 1991 she invited them to participate on a Mendocino Coast Audubon Society field trip, which was their first birding trip. By 1993, they were hooked into birding and since then Rich has birded 125 countries and has seen 6,148 Life Birds and counting thanks to the inspiration from E. Rae.

If you have someone whom you would like to memorialize with a gift of any size, please contact our Executive Director, Ryan Phillips (harpiabz@yahoo.com).



Juvenile Solitary Eagle at nest

» ADOPT-A-NEST OR BIRD: BE THE FIRST TO ADOPT THE ONLY KNOWN SOLITARY EAGLE NEST

With a donation of \$500 or more you can adopt a nest or an individual bird of a species we are studying. Your kind donation will ensure that we gain the knowledge necessary, which will ultimately protect and preserve the species. With your donation you will receive periodic updates, as well as a photograph and certificate stating that you have adopted this nest or bird and ensuring its protection. Be the first to adopt the only known Solitary Eagle nest across its entire distribution. You can also adopt a Stygian Owl or a hawk-eagle.

» RECENT RAPTOR SIGHTINGS

SPECIES	DATE	LOCATION	OBSERVER
Swallow-tailed Kite	July 20th	Flock of 80 birds, Placencia Lagoon	Roni Martinez
Red-tailed Hawk	Aug 5th	Baldy Hills, PFB Property	Ryan Phillips & Eddie Tzib
Merlin	Oct 9th	Cooma Cairn Tower	R. Phillips* & R. Martinez*
Cooper's Hawk	Oct 9th	Cooma Cairn Tower	Roni Martinez
Mississippi Kite	Oct 18th	Belize City, Biltmore	Jonathan Urbina & Freddy Pineda
Sharp-shinned Hawk	Nov 4th	Mountain Pine Ridge	Ryan Phillips
Merlin	Nov 4th	Mountain Pine Ridge	Ryan Phillips
Broad-winged Hawk	Nov 5th	Hummingbird Highway	Roni Martinez & Ryan Phillips
White-tailed Hawk	Nov 6th	Entrance of Placencia Road	Roni Martinez & Ryan Phillips
Merlin	Nov 6th	Southern Highway	Roni Martinez & Ryan Phillips
Solitary Eagle	June 12th, 14th	Mountain Pine Ridge	Camille Meyers

Please report your raptor sightings in Belize to harpiabz@yahoo.com

» RAPTOR QUIZ RESULTS

AUGUST 2011

- Common Black-Hawk (*Buteogallus anthracinus*), juvenile

The photo below was taken just outside of Belize City near the Belize River on the Northern Highway. We watched this bird successfully prey on a terrestrial crab. This species is fairly common along the Belize coast and on the cayes. Common Black-Hawks are often confused with Solitary Eagles and Great Black-Hawks.



Juvenile Common Black-Hawk



Solitary Eagle nest habitat

» UPCOMING EVENTS

2ND ANNUAL BRRI BIRDATHON FUNDRAISER: 23 MARCH 2012

JOIN in the fun by joining or forming your own birding team to compete in finding the most bird species between 12:00am and 11:59pm in any location within Belize of your choice. The Birdathon will take place on March 23rd. Find sponsors for your team to compete in winning the "Most Money Raised" award. Other awards given include: "Best Bird" and "Most Species." Attempt to break last year's record of 238 species and \$3,000US raised by Board member Rich Kuehn. Good luck!

2ND ANNUAL BRRI RAPTOR WORKSHOP

Now accepting early registration for the 2nd Annual Neotropical Raptor Identification Workshop. The 3-day workshop will be held at Francis Ford Coppola's highly acclaimed Blancaneaux Lodge in December 2012. Sign up before December 31st 2011 and receive a \$50 discount. Register by sending an email to: harpiabz@yahoo.com

» HIGHLIGHTED PROJECT

STUDYING THE ENIGMATIC SOLITARY EAGLE

What is the story of the solitary eagle?

Neotropical raptors are in critical need of study as basic natural history information on the nests, eggs, home range, area requirements, demographics and movements of over half are unknown (Cade 1989, Bierregaard 1995, Bildstein et al. 1998). The Solitary Eagle, *Harpohaliaetus solitarius*, has a patchy distribution from western Mexico to northwest Argentina where it is a very rare and local resident throughout (Ferguson-Lees and Christie 2001). It is among the least known raptors found in Central America and therefore a priority species.



Female Solitary Eagle

Throughout the Solitary Eagle's distribution, there are fewer than 80 confirmed records between the 1800's and today. It is currently classified as "Near Threatened" by the IUCN due to its modestly small population size, which is estimated to be between 250-999 individuals (Birdlife International 2009). Based on further evidence of population trends, the species may be up-listed to "Vulnerable". However, currently there is no data on the species to properly assess its status (Birdlife International 2009). In Belize it is listed as "Critically Endangered", which means it is vulnerable to becoming extinct.

To date, only three Solitary Eagle nests have been discovered. Two nests were found in Sonora, Mexico in 1947 and 1958, respectively. These nests were visited once and the adults were collected as museum specimens, so no detailed observations of breeding biology or nest charac-

teristics were conducted. In June 2011, Roni Martinez, BRRRI Board member and Blancaneaux Lodge Conservation Officer, located the only known currently active nest for this species. As the pair had a single chick, this gave BRRRI the opportunity to collect the first breeding biology data on the species. Although there have been numerous reports from Belize of the Solitary Eagle, the first well-documented record occurred in 1997 within the Mountain Pine Ridge area by Steve Howell. This was followed by the first photo documentation in 2004 in the Mountain Pine Ridge Forest Reserve by Chris Benesh (Jones et. al. 200). While there have been numerous records from Belize, all but a few are from the Mountain Pine Ridge area, which makes this an ideal location to study it there. Outside of single records, only a few papers have ever been published on this species further exemplifying the importance of any studies on this vulnerable eagle.

WHAT DO WE PLAN TO LEARN AND ACCOMPLISH FROM THIS PROJECT?

The overarching goal of this study is to gather knowledge on the little known Solitary Eagle that will allow us, in conjunction with local wildlife management agencies, to design and implement sound conservation practices for this species. This may include, but not be limited to, habitat conservation and environmental education. Objectives include studying this species' habitat usage, breeding biology, feeding habits, movements, distribution, conservation status, dispersal, area requirements, and home range usage through nest monitoring, point-counts, and radio telemetry. Through this research the following questions might be answered so that biologists can correctly assess the conservation status of the Solitary Eagle.



Through education, training, and engaging local community members in conservation activities, we hope to inspire them to take pride in their biodiversity, which will ultimately result in the protection of these endangered species.

QUESTIONS TO BE ANSWERED BY THE SOLITARY EAGLE PROJECT:

- What are the area requirements for adults and juveniles?
- How many individuals can a given area sustain?
- What is the current population size?
- What are the threats?
- Has the population declined?
- How far do juveniles disperse?
- Is their scattered distribution isolated?
- Are there two subspecies (South America/C. America/Mexico)?
- Do non-breeding and breeding ranges and habitat differ?
- Do nesting pairs prefer transition zones between pine and broadleaf forest?
- Are they restricted to pine forest for breeding?
- Do they prefer a specific habitat for foraging?
- Is the current designation of Near Threatened the appropriate status?
- Is there interspecific or intraspecific competition resulting in mutual exclusion?

Not only might we gain valuable knowledge of the Solitary Eagle and its true status, but we will help protect the species, its ecosystem, and the peoples that share their environment with this majestic raptor. Through education, training, and engaging local community members in conservation activities, we hope to inspire them to take pride in their biodiversity, which will ultimately result in the protection of these endangered species. We also hope that their experiences in the field will spark a passion, which will open up opportunities for many that never imagined a career in conservation or field biology was a possibility. Without local involvement and support, conservation projects like this rarely succeed.

As a result of this project, we would like to work toward the establishment of the first Solitary Eagle Reserve in Belize. We'd like to do this in partnership with a local non-profit organization, Programme for Belize, which owns 3,200 acres of forest, in which the only known Solitary Eagle nest is located.

The data collected from such a ground-breaking project will unravel the mysteries of this enigmatic species. We will be able to produce a Solitary Eagle Conservation Action Plan and assist the International Union for Conservation of Nature (IUCN) in properly assessing the species' status, which is currently listed as Near Threatened. As previously indicated, the IUCN states that the Solitary Eagle "is likely to be declining owing to habitat loss and hunting, therefore may be up-listed to Vulnerable based on further evidence of its population size and trends."

Our goal is to prove the Solitary Eagle is a species more endangered than current thinking would have us believe and should be up-listed before its population numbers become too low to be viable, if this has not happened already. With this higher protection, management plans can be written and implemented, protecting this flagship species and its habitat.

(continued on next page)

Solitary Eagle nesting habitat





Solitary Eagle adult calling

WHAT HAVE WE LEARNED THUS FAR?

Since the discovery of the Solitary Eagle nest on June 30th, we have made nearly 100 hours of observations of the nestling, fledgling, and dispersal periods. Prior to this study, there was only anecdotal information on the diet of the Solitary Eagle. Through direct observations of the nest we recorded twenty prey items brought to the nest by both the adult male and female. Seventeen of the twenty prey items were of snakes, and the other three were a single observation of a Nine-banded Armadillo, Striped Basalisk, and an unidentified mouse or rat (see chart). This proves that they are specialized reptilian feeders, but will prey on the occasional mammal. The Tropical Rat Snake (*Spilotes pillatus*) and Brown Racer (*Dryadophis melanolomus*) were the two most abundant prey species, but a larger sample size is needed to determine how important these species are in their diet (see chart).

On the day the nest was discovered, the nestling appeared to be approximately two months old and was being fed by both parents. Adults would bring in prey to the nestling between 1-3 times per day, usually between 12:00-16:00. On one occasion, both the adult male and female came into the nest from the same direction at the same time each carrying a snake. On most occasions, the male and female would bring prey to the nest at different times; rarely were both adults observed at the nest at the same time. The female was observed near the nest more frequently.

The nestling was first observed wing flapping, spreading its wings and lifting up off the nest, on July 10th. The nestling spent most of its day food begging or standing at the edge of the nest during the month of July. On August 4th, the nestling made its first flight from the nest tree. We estimated the nestling fledged at approximately 3.5 months of age. For the next month, the juvenile was observed not more than 200 meters from the nest frequently food begging. The adults continued to bring food to the nest, where the juvenile would fly to once it heard the parents. On August 16th, the juvenile began to look for prey. It was observed intently looking down at the ground at anything that moved. On August 26th, we observed its first attempt to catch prey when it attacked a Striped Basalisk, but it was unsuccessful. Now the juvenile has moved about 1 kilometer from the nest and continues to be fed by the adults, but away from the nest.

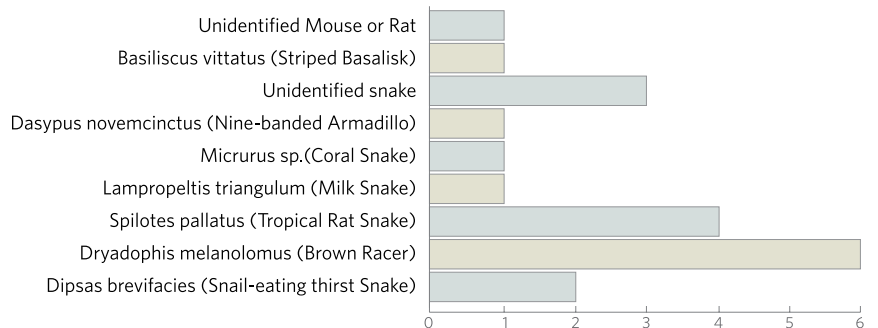
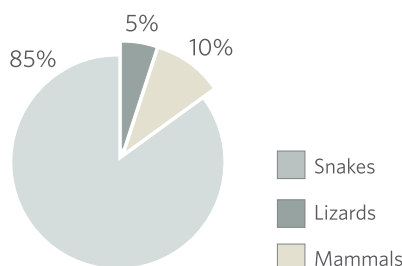
Since this is the first nest ever studied of this rare species, we decided not to radio-tag any of the individuals, in order not to disturb the nesting process. Consider -Like other forest eagles of the Neotropics, we assume that the dependency period is at least 6 months after fledging so we suspect they will not nest again until 2013.

FUTURE PLANS

If this pair nests in 2013, we plan to install a camera system in the nest to record the entire breeding cycle. We also plan to trap and radio-tag the adults and juvenile, so we can learn their ecological requirements. We would like to ask you for your assistance as we prepare for the 2013 nesting season. A donation of any size would be greatly appreciated and would help us purchase the video recording system and radio-telemetry equipment needed for this important research project.

Stay tuned to see if the juvenile is observed again and when the nest becomes active!

Prey Items Observed at the Solitary Eagle Nest



STAFF AND BOARD OF DIRECTORS

STAFF

Ryan Phillips, Executive Director

BOARD OF DIRECTORS

Flavien Daguise- President
Jan Meerman- Vice-president
Rich Kuehn- Treasurer
Marta Curti- Secretary
Jim Beveridge
Tony Garel
Roni Martinez

ADVISORY BOARD

Marcus Canuto
William Clark
Knut Eisermann
Jack Eitnrear
Allen Fish
H. Lee Jones
Lloyd Kiff
Sharon Matola
Steven McGhee
Trevor Roe
Neil Rogers
Russell Thorstrom
Ursula Valdez
Hernan Vargas

FIELD VOLUNTEERS

Melvin Arevalo
Andrew Bradshaw
Flavien Daguise
Geraldo Garcia
Wayne Hall
Rick Malupo
Roni Martinez*
Jami Macarty
Cody Phillips
Freddy Pineda
Vladimir Rodriquez
Rick Romero
Eddie Tzib
John Welch

CONTACT INFORMATION

Belize Raptor Research Institute

Ryan Phillips:
harpiabz@yahoo.com

US ADDRESS:

1298 West Hacienda Avenue
Campbell, CA 95008

BELIZE ADDRESS

Little Vaqueros Enclave
Mountain Pine Ridge Cayo District

ALL MATERIAL IS THE PROPERTY OF THE BELIZE RAPTOR RESEARCH INSTITUTE AND MAY NOT BE USED WITHOUT THE WRITTEN CONSENT OF BRR

2010 AND 2011 DONORS

\$500+ (Harpy Eagle)

Blancaneaux Lodge
Blancaneaux Lodge
Center for the Study of Tropical Birds, Inc.
Karen Cross and Dan Yocum
Marta Curti*
Wayne Hall
Hidden Valley Inn
Elaine Jacob
Dean Schuler and Rich Kuehn*
Julie and Stuart Phillips
Russell Thornstrom

\$100-499 (Ornate Hawk-Eagle)

Julie and Chris Beach
Dorothy and Jim Beveridge*
Flavien Daguise*
Kathleen Dandidge and Charles Murphy
Caryl Carr and David Presotto
Gail and Doug Cheeseman
Dorothy Gregor
E Rae Hudspeth, MD
Mary Sue Ittner
Jeanne and Richard Jackson
Pamela and Richard Kalustian
Roni Martinez*
Sharon Matola
Janet and Alfred McElroy
Jean and Gregory Myers
Jeanne and William Osterland

Leon and Janna Pauser
Bob Power
Troy Rahmig
Patricia Robinson
Linda and David Shields
Richard Skidmore
Kristin and Mark Sullivan
Janmarie and Mike Wright

\$10-99 (Swallow-tailed Kite)

Nancy and Kenneth Bear
Maryann Campisano
Marcia and James Carruthers
Richard Casserley
Lysbeth (Buff) and Gerald Corsi
Lynne and Jim Edwards
Irene and Andy Engilis
Sharon and Bert Frenz
Judith and Russell Hardy
Karen and Jim Havlena
Diane and Bryant Hichwa
Katherine and John Horn
Pamela and Harry Hyaduck
Sharon and Grant Inman
Carol and Gary Irwin
Norma Jellison
Alice Grulich-Jones and Gary Jones
Douglas Kuehn
Mirka Knaster
Bettina Leong

William Mader
Richard Mahler
Michele and George Marshall
Gretel and Siegfried Matull
Toni Mayer
Sandra and Stephen Moore, MD
Anne Moser
Brian Raxon
Barbara and David rice
Jennifer Rycenga
Paula Schafer
Jerry Shifman and Reva Basch
Nicholas Skezas, MD
Melvin Smith and Linda Bostwick
Langdon Stevenson
Madeleine and Lennie Stove
Mark Sutherland
Barbara Thalacker
Debbie and Steve Thompson
Nancy and Richard Trissel
Diane Wickstrom
Graham Sampson
Robert Speckels
Alice and Dennis Spriggs
Sheree and Stephen Wilcox
Amanda and Benjamin Woo
Megan and Charles Wosaba
Tracy and Gregory Wosaba

*Board of Directors

In 2011 we have raised \$7,500 from private donations. We hope to reach \$10,000 by the end of 2011. Please help us reach this goal by making a donation today of any size.

SPECIAL THANKS TO THE FOLLOWING PEOPLE AND ORGANIZATIONS:

The Belize Forest Department, Rasheeda Garcia, The Center for the Study of Tropical Birds Inc., Jack Eitnrear, Blancaneaux Lodge, Neil Rogers, Bernie Matute, Luvia Morales, Hidden Valley Inn, Trevor and Brian Roe, Nathascha and Amon Johnson, all of our field volunteers listed above, Janmarie Wright, Bill Clark, Russell Thorstrom, Holohil Systems Ltd., Sharon Matola and The Belize Zoo, The Peregrine Fund, Marcus Canuto, Wayne Hall, Lloyd Kiff, Yeray Seminario, Angel Muela, Programme for Belize, Edilberto Romero, Ramon Pacheco, Herbert Haylock, Bladamir Rodriquez, and all of our donors. Without each of yours support we would not have been able to accomplish our 2011 goals.

HOW TO DONATE

BRR I relies entirely upon donations from organizations and individuals like you to fund our projects and to achieve our goals. We hope to raise \$10,000 for the 2012 field season, and we can reach this goal with your assistance. Please help support our efforts by making a tax-deductible donation of any size by either:

- » Mail a check to: 1298 W Hacienda Avenue • Campbell, CA 95008
- » Donate via PayPal: to belizeraptorresearchinstitute@yahoo.com

You can also:

ADOPT-A-NEST

With a donation of \$500 or more you can adopt either a nest or an individual bird of a species we are studying. You will receive periodic updates, as well as a photograph and certificate.

NAME-A-BIRD

With a donation of \$250 or more you can name one of our study birds of your choice. You will receive periodic updates, as well as a photograph and certificate.