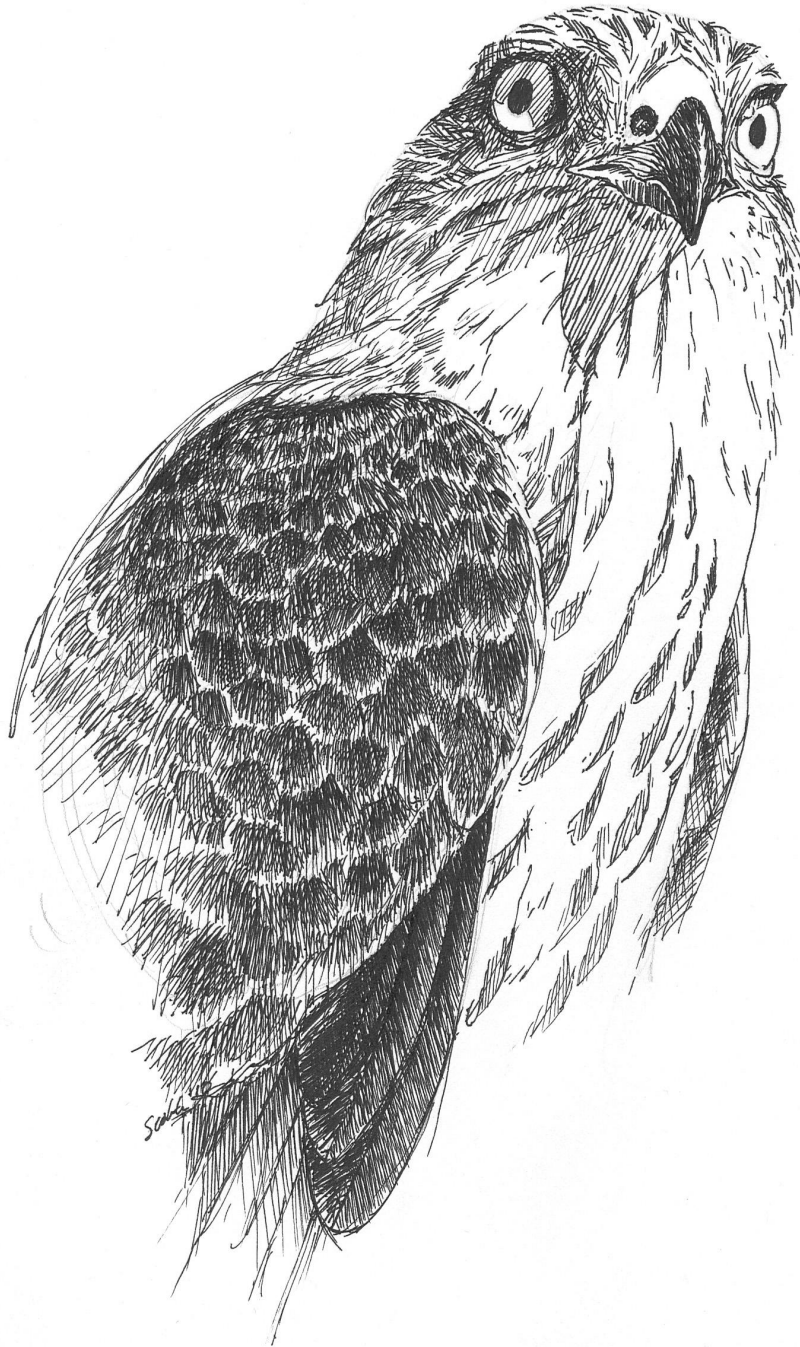
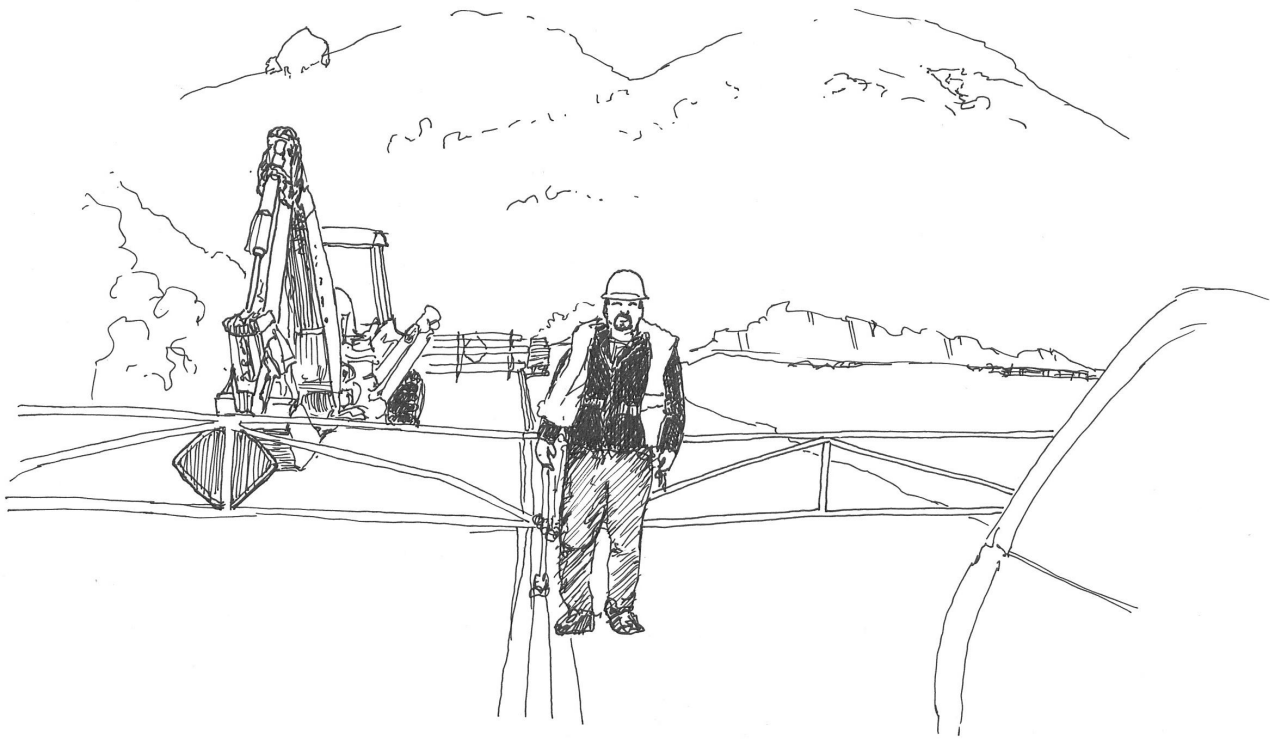


Golden Gate Raptor Observatory

Season Summary 2010



VOLUNTEERS • HAWKWATCH • BANDING
TELEMETRY • OUTREACH • DONORS



Allen Fish dons a garish yellow vest and matching hard hat to open the construction gate for weekend hawkwatchers en route to Hawk Hill in September.

G O L D E N G A T E R A P T O R O B S E R V A T O R Y

The Golden Gate Raptor Observatory's mission is to inspire the preservation of birds of prey. Our business is to monitor and study the bird of prey migration along the central California coast, particularly at the Marin Headlands, part of the Golden Gate National Recreation Area. We are dedicated to the conservation of raptors both through careful data collection *and* through involving the public in every aspect of our research.

The GGRO is a program of the Golden Gate National Parks Conservancy and the National Park Service, and is made up of 295 community volunteers and a small staff.

GGRO Season Summary 2010 was written by Allen Fish & Buzz Hull.

It was edited by Jill Harley, illustrated by Siobhan Ruck, and published by the Golden Gate Raptor Observatory, Golden Gate National Parks Conservancy
Fort Cronkhite, Building 1064, Sausalito, California 94965

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www.parksconservancy.org • www.ggro.org

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Cover Illustration: Normally quick and quite secretive when not migrating, Sharp-shinned Hawks are a bread-and-butter raptor species in the Golden Gate flight. More than 2400 Sharpshins were tallied in 2010; 362 Sharpshins were banded and released.

G G R O S T A F F

ALLEN FISH, GGRO DIRECTOR • BUZZ HULL, RESEARCH DIRECTOR • JILL HARLEY, RESEARCH ASSISTANT
2010 INTERNS: LINDSAY ADDISON • ANASTASIA ENNIS • GENEVIEVE ROZHON • JONATHAN STEIN

I N T R O D U C T I O N

In summer 2010, we learned that due to various work delays and unusual spring rains, the re-grading of upper Conzelman Road (the last mile approach to Hawk Hill) in the Marin Headlands would be delayed. Hawk Hill would be closed into mid-October. With the raptor migration starting up in mid-August, that presented a problem for our GGRO counting and banding teams. Could we cross through the road work zones? After several meetings with Federal Highway officials and Park colleagues, we had a plan.

Hawk count teams could access Hawk Hill on weekends only; on weekdays we would need to be at Slacker Hill, a half-mile to the northeast. Banding teams could access the Hawk Hill banding blind every day but had to enter the area before daily roadwork began at 7:00 AM and exit after the roadwork closed at 5:30 PM. This is where the heroics come in: two or three banding volunteers needed to be at the GGRO office each day prepping for their banding day at 6:00 AM. Throw in a half-hour drive from home and you've easily got a 4:30 AM to 8:00 PM day.

Why these crazy, exhausting hours? Just to catch a few more hawks per day? Sure – but those few hawks can add up. In one late September week in 2010, that single blind accounted for 167 raptors banded. In an average season, Hawk Blind contributes 45% to 60% of all hawks banded. This is a critical blind for the GGRO, and banders burned both ends of the candle in 2010 to make certain that we used it every possible day.

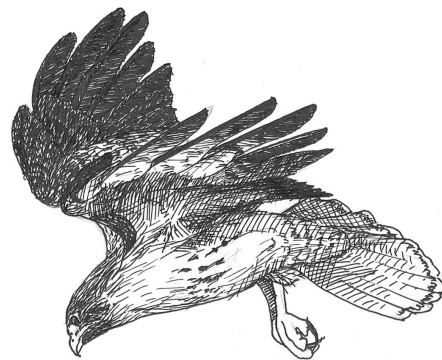
To wrap up the GGRO's 2010 season in a few lines would be futile. GGRO banders, counters, telemetrists, docents, and interns all made extraordinary efforts to make sure that our 28th field season was successful. We owe great thanks to all of our National Park Service and Golden Gate National Parks Conservancy colleagues for their support, and for attending lots of meetings to make sure that the GGRO's 2010 season happened.

GGRO depends on the long-term commitment of nearly 300 volunteers, four of whom also reached their 25-year mark this year: Terry Coddington, Dennis Davison, Cheryl Kraywinkel, and Fran McDermott. Thank you each for your huge and distinct contributions to the GGRO. Finally, with deep sadness and respect, I note the passing of my friend and colleague Sally Mills at the peak of the fall 2010 migration. Sally's vision and hard work brought many parts of the GGRO to life, and we will describe her impact in detail in the upcoming *Pacific Raptor Report*.

Yours in conservation,



ALLEN FISH
afish@parksconservancy.org



V O L U N T E E R S

Sam Abercrombie	Caryl Carr	Alice Fialkin	Bill James
Jeff Acuff	Chennie Castañon	David Fichtner	Eric Jepsen
Lindsay Addison	Sally Cedarblade	Robbie Fischer	David Jesus
Amanda Ailand	Linda Chambers	Allen Fish	Lynn Jesus
Christian Alexanderson	Jim Clausen	David Fix	Neal Johannsen
Rob Allen	Patrick Cleeves	Ross Forman	Jennifer Kaczor
Caryn Ansel	Terry Coddington	Richard Freeberg	Debbie Kahn
Anne Ardillo	Wendy Cole	Claire Gallagher	Judy Kaufman
Kendra Armer	Martha Conant	Suzanne Garcia	Kanani Kauka
Michael Armer	Roger Conant	Jack Gedney	Mamiko Kawaguchi
Stefanie Arthur	Kay Conneely	Megan Gnekow	John Keane
Diane Bahr	Tom Conneely	Alane Gray	Mary Kenney
Bill Barnaby	Gerald Connell	David Gregoire	Sterling Kinnell
Anna Barr	Lewis Cooper	Ann Greiner	Walter Kitundu
Eddie Bartley	Su Corbaley	Keith Gress	Leslie Koenig
Don Bartling	David Coughlin	John Griffin	Ann Kositsky
Larry Beard	Jennifer Cutler	Eli Gross	Allison Kozak
Marita Beckum	Candace Davenport	Elin Gunnarsson	Cheryl Kraywinkel
Tim Behr	Alex Davis	Jerry Hadfield	Doris Kretschmer
Nicolas Bell	Dennis Davison	Aaron Haiman	Zeka Kuspa
Mukund Belliappa	Pamela Dayton	Joshua Haiman	Jason Laffer
Ande Bennett	Tom Delebo	Mike Hall	Corinne Lambden
Maxine Berg	Carmen DeLeon	Michael Harkins	Shelby LaMotte
Ronald Berg	Russ DeLong	Jill Harley	Joan Lamphier
Ardith Betts	Janine DeMartini	Lisa Harn	Dian Langlois
Lisa Blankenship	Richard Drechsler	Alan Harper	Tami Lau
Leah Blaschke	Judith Dunham	Judy Harris	Patricia Lessard
Jessica Blickley	J.D. Durst	Susan Harris	Allison Levin
Marc Blumberg	George Eade	Michele Harrison	Pam Lewis
Robert Blumberg	Wade Eakle	Amos Hausman-Rogers	Marie Lipman
Natalya Blumenfeld	Rick Elefant	Jen Haynes	John Longstreth
Jeff Boissier	Nathan Elliott	Melissa Hero	Corrina Lu
Robyn Boothby	Teresa Ely	David Herrema	Salli Lundgren
Brandi Bosch	Robert Engel	Barbara Hilbourn	Jasmine Lyons
Carroll Botvinick	Anastasia Ennis	Jen Holmes	Lynn MacDonald
Tony Brake	Janeann Erickson	John Holson	Jean Magistrale
Randy Breaux	Laura Erickson	Calvin Hom	Mary Malec
Nancy Brink	Natalee Ernstrom	Sam Hontalas	Stacy Martinelli
Johnny Brown	Arturo Espindola	Diane Horn	Jaime McConachie
Stephanie Bruguera	Debi Fanucchi	Dick Horn	Wendy McConachie
Ralf Burgert	Roxanne Farwell	Mary Houghteling	Fran McDermott
Shannon Burke	Nancy Felling	Penn Hughes	Yvonne McHugh
Carol Butler	Tom Felling	Buzz Hull	Terry Mead
Michael Butler	Mark Fenn	Josh Hull	Joe Medley
Phil Capitolo	Richard Ferris	Julian Hyde	Horacio Mena
Lynn Carew	Norma Ferriz	Diana Jacobs	Carla Menjivar

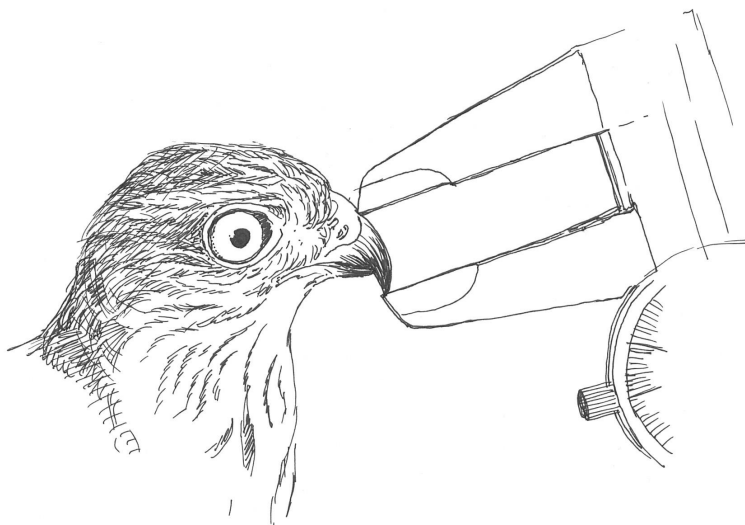
V O L U N T E E R S

Alan Meyer
Kim Meyer
John Miles
Jess Miller
Steve Miller
Margaret Mindell
Paul Mirocha
Nancy Mori
Tom Moutoux
Mikiye Nakanishi
Jennifer Nazzal
Gayle Newman
Angela Newsham
Chris Nikitas
Craig Nikitas
John Odell
Kathy Odell
Kaori Okada
Brian O'Laughlin
Rebecca Olsen
Michelle Oltman
Claire O'Neil
Steve O'Neill
Pat Overshiner
Lisa Owens-Viani
Elizabeth Palmer
Gary Palmer
Robert Palmer

Ron Parker
Janine Payne
Jean Perata
Ralph Pericoli
John Perry
Matthew Perry
Roy Pisetsky
Bob Power
Robbie Preu
Bill Prochnow
James Raives
Don Reinberg
Theresa Rettinghouse
Eileen Richey
Shawn Roberts
Steven Rock
Toby Rohmer
Laury Rosenthal
Genevieve Rozhon
Siobhan Ruck
Barbara Sapienza
Peter Sapienza
Chika Sato
Juta Savage
Terrie Schweitzer
Misha Semenov
David Sexton
Robert Sexton

James Shea
Jay Sheets
Cynthia Smith
Karen Smith
Robert Smith
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Curtis Snyder
Tate Snyder
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Mandy Stanford
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Jonathan Stein
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Janet Thiessen
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Rachel Townsend

Leslie Tribe
John Ungar
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Keith Van Bueren
Raven Van Bueren
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Douglas Vaughan
Nick Villa
Erika Walther
Noreen Weeden
Marion Weeks
Emily Weil
Dave Wells
Barbara Westree
Peter White
Jeffry Wilkinson
Laurie Williams
Harvey Wilson
Ken Wilson
David Wimpfheimer
Susan Winer
Bright Winn
Kathy Wolf
Elizabeth Wommack
David Wood
Jim Yampolsky
Laura Young



A Sharp-shinned Hawk studies the calipers measuring its exposed culmen, one of the measurements we record on each banded raptor.

H A W K W A T C H

RAPTOR-SIGHTINGS IN THE MARIN HEADLANDS DURING AUTUMN*

	Slacker 2010 <i>(159 hours)</i>		Hawk Hill 2010 <i>(280 hours)</i>		Hawk Hill Average 2000-9 <i>(502 hours)</i>	
	Sightings	RpH	Sightings	RpH	Sightings	RpH
Turkey Vulture	2473	15.60	2753	9.82	9179	18.28
Osprey	33	0.21	18	0.06	105	0.21
White-tailed Kite	31	0.58	43	0.15	92	0.18
Bald Eagle	1	0.01	4	0.01	5	0.01
Northern Harrier	62	0.39	160	0.57	751	1.50
Sharp-shinned Hawk	1207	7.62	1198	4.27	4187	8.34
Cooper's Hawk	1234	7.79	707	2.52	2427	4.83
Northern Goshawk	0	0.00	0	0.00	1	0.00
Red-shouldered Hawk	87	0.55	57	0.20	464	0.92
Broad-winged Hawk	78	0.49	16	0.06	123	0.25
Swainson's Hawk	2	0.01	9	0.03	6	0.01
Red-tailed Hawk	2373	14.97	3639	12.98	9427	18.77
Ferruginous Hawk	17	0.11	12	0.04	22	0.04
Rough-legged Hawk	0	0.00	0	0.00	7	0.01
Golden Eagle	9	0.06	4	0.01	20	0.04
American Kestrel	189	1.19	247	0.88	542	1.08
Merlin	58	0.37	113	0.40	171	0.34
Peregrine Falcon	54	0.34	143	0.51	199	0.40
Prairie Falcon	2	0.01	0	0.00	8	0.02
Unidentified	510	3.22	324	1.16	1291	2.57
Total	8420	53.12	9447	33.71	29028	57.80

*2010 data still under review. RpH is raptors per hour.

Great thanks to the 14 dayleaders who led 157 counters through the August 16th to December 5th season. Due to the Conzelman Road rehabilitation this year, Hawk Hill was only available for counting: (1) on weekends from August 16th through October 19th; and (2) daily from October 20th through December 5th. We conducted most pre-Oct 20 weekday counts from Slacker Hill (1 km northeast of Hawk Hill).

Although we ended up counting for a healthy 280 hours from Hawk Hill in 2010, those hours were mostly in November when fewer raptors are counted overall. Also, the Hawk Hill counts for species that are traditionally early season migrants (e.g., Osprey) or late (e.g., Peregrine) were even further skewed this year. Because of these biases, we won't be able to co-mingle data from the two sites, nor create species totals for the 2010 season.

So, given that we couldn't staff a full season from Hawk Hill in 2010, then why conduct a hawk count at all? A few reasons: (1) to document any possible extraordinary species changes during the 2010 season; (2) to compare the hawk flight dynamics seen from Slacker Hill and Hawk Hill; (3) to improve our raptor ID skills; and (4) to analyze 2010 data taken from Hawk Hill with only late season and weekend data from Hawk Hill in previous years.

- ALLEN FISH

D A Y L E A D E R S

TIM BEHR • LEWIS COOPER • DENNIS DAVISON • ALLEN FISH • JOSHUA HAIMAN
 JULIAN HYDE • DAVID JESUS • MARY KENNEY • FRAN McDERMOTT
 HORACIO MENA • KIM MEYER • BOB POWER • JAMES RAIVES • LAURY ROSENTHAL

B A N D I N G

RAPTORS BANDED IN THE MARIN HEADLANDS DURING AUTUMN

	2010 (Aug 16-Jan 3, 2011)	Annual Average 1992-2009*	Totals 1983-2010
Northern Harrier	1	11	257
Sharp-shinned Hawk	362	483	9,584
Cooper's Hawk	524	568	12,006
Northern Goshawk	0	0	5
Red-shouldered Hawk	2	15	305
Broad-winged Hawk	0	1	22
Swainson's Hawk	1	0	9
Red-tailed Hawk	114	333	8,110
Ferruginous Hawk	0	0	2
Rough-legged Hawk	0	0	5
Golden Eagle	0	0	2
American Kestrel	82	54	1,158
Merlin	52	26	522
Peregrine Falcon	2	4	77
Prairie Falcon	1	2	36
Eurasian Kestrel	0	0	1
Total	1,141	1,497	32,101

* 1992 through 2009 are used for this comparison due to similarity of methods and effort between those years and 2010.

The dominant theme for the season was road access, or rather barriers to our usual access. The sub-theme was the determined, dedicated response of the GGRO banders – including apprentices, journey-level banders, and dayleaders. My thanks and hearty congratulations to all of you who arrived at the Headlands hours earlier than you are used to and stayed hours longer each day through all kinds of difficult conditions. Those who did not arrive early were also burdened by extra work at Townsley and Building 1064, as you lost the early team members for these routines.

Our banding success was modest this season, and no, I don't think the low numbers banded were due to the road access situation. We experienced more cold foggy days, and also more hot, windless days than usual, and we never saw a second Redtail flight in October and November. In several previous seasons, for example 1998, 2003, and 2005, the second Redtail peak also failed to materialize for reasons we have not been able to explain. American Kestrels were banded in good numbers (82), and 52 Merlins were banded, both well above average numbers.

Five siteleaders accepted the challenge of dayleading, either as a season-long assignment, or as back-ups when needed. Twenty-three of the 27 new apprentices who started the season with us completed the full 18 weeks of 2010 banding, and made good progress in gaining the needed skills, despite the paucity of raptors for many of the days.

- BUZZ HULL

D A Y L E A D E R S

ANNE ARDILLO • MIKE ARMER • RANDY BREAUX • NANCY BRINK • RUSS DELONG
CLAIRE GALLAGHER • DIANE HORN • BUZZ HULL • JOSH HULL • DAVID JESUS • JOHN KEANE
MAMIKO KAWAGUCHI • CRAIG NIKITAS • NICK VILLA • MARION WEEKS

T E L E M E T R Y

JUVENILE RED-TAILED HAWKS RADIOTRACKED IN 2010

Name	Active Tracking	Post-season Tracking	Net Direction	Last Known Location	Net Distance from Headlands
Athena	Nov 10-14	Late Dec	South	Half Moon Bay	25 miles
Bonnie	Nov 14-21	None	Southeast	South of Mt. Hamilton	90 miles

“Athena,” the 27th juvenile Red-tailed Hawk tracked by the GGRO, was trapped on Wednesday, November 10th, 2010. She was released just after 3:00 PM, at the end of the fifth scheduled day of the telemetry season. She spent the night in Gerbode Valley. The next morning she was up before 8:00 AM and flew south almost immediately with James Raives and Bill James hot on her trail. She slowed down just west of Highway 1 in Half Moon Bay, and was seen flying over the road along with two other Red-tailed Hawks. Her signal stayed in the Martin’s Beach area until sunset. On Friday and Saturday, teams detected only local movements. On Sunday the 14th, telemetry teams stayed with Athena until 12:30 PM, when a new Red-tailed Hawk was captured. While home for Thanksgiving on November 27th, Genevieve Rozhon was able to find a strong signal from Bob’s Pumpkin Patch, south of Half Moon Bay. Larry Beard was still picking up Athena’s signal there through late December.

“Bonnie” was caught on November 14th and released from Hawk Hill at 3:40 PM. With all teams listening to her signal, she flew towards the FM towers and roosted above Sausalito in the Headlands. The next day, around 10:00 AM, Bonnie crossed the Golden Gate, heading south. Larry Beard and Anastasia Ennis monitored her progress toward Pacifica from San Bruno Mountain. Bonnie finished the day near the junction of Highway 92 and Highway 1, near Half Moon Bay. On the 16th, Bonnie spent the morning soaring and made her move southeast in the afternoon, ending up east of Santa Cruz, where tracking became difficult due to the lack of roads.

Bonnie drifted east again on the 17th, probably passing near Hollister in the early afternoon. Larry Beard and David Wimpfheimer got a strong signal from her in Paicines late in the day. The next day’s teams started there too, with a good signal. Cheryl Kraywinkel picked up the signal on Fremont Peak for part of the day, but for most of the afternoon Bonnie was missing while the other teams scoured the Panoche Valley. Late in the afternoon, Libby Rouan and Lindsay Addison picked up a faint signal coming from southwest of the San Luis Reservoir. From the 19th through the 21st, the teams braved fog, rain, hail, and snow on Mount Hamilton, the only location a signal was heard. On the 20th Barb Westree and Jonathan Stein got a signal moving toward the southeast, and on the 21st Ann Greiner and Mike Hall heard a signal coming from the direction of Henry Coe State Park, Bonnie’s last known location.

For the first time since 2007, both telemetry hawks moved southward. While Athena only moved 25 miles down the coast, Bonnie took the teams on a great chase through the mountains of central California.

- LINDSAY ADDISON AND ANASTASIA ENNIS

T E L E M E T R Y L E A D E R S

CARYN ANSEL • LARRY BEARD • JEFF BOISSIER • PHIL CAPITOLO
TOM CONNEELY • BILL JAMES • LYNN JESUS • CHERYL KRAYWINKEL
JAMES RAIVES • LIBBY ROUAN • BARB WESTREE • DAVID WIMPFHEIMER

O U T R E A C H

Our headline success in GGRO's 2010 outreach was keeping the fall hawk migration open as an educational venue in spite of the Hawk Hill closure. Fortunately fifteen talented GGRO docents spent four-hour weekend blocks of time greeting hawk visitors and migration watchers at the Annex. We met raptor-hungry visitors from as far away as Australia, Taiwan, even Connecticut, as well as many from the SF Bay Area.

And just what is the Annex? As you head up Conzelman Road toward Hawk Hill, the Annex is the big turnout with four benches, just west of the McCullough-Conzelman junction. Sitting at the head of Kirby Cove at about the 550' elevation mark, the Annex affords a superb view of the surrounding slopes, as well as the line of hawks leaving the lift zones on both Hawk and Slacker hills.

GGRO staff and volunteers gave talks for numerous groups in 2010: Presidio Trust, Head-Royce School, San Francisco State University, Sonoma State University, Headlands Institute, Berkeley Parks and Recreation staff, Falcon Research Group (Seattle), Monterey Bay Bird Festival, Pt. Reyes Bird Festival, UC Davis, Trust for Public Land, Richardson Bay Audubon Sanctuary, Ohlone Audubon Society, Bay Nature staff, the Gordon and Betty Moore Foundation awardees, Raptor Research Foundation, and the Hungry Owl Project.

We had several scientific highlights in 2010. In August, led by researcher Dr. Joshua Hull, we published a scientific article on our 14-year accipiter identification study in the *Journal of Wildlife Management*. An innovative study demanding cooperation between our daily hawk counting and banding teams, the results showed regular patterns of misidentification between Cooper's and Sharp-shinned hawks. As near as we can tell, this is the first published article on rates of accuracy in bird identification anywhere.

In September, GGRO Research Director Buzz Hull was an invited speaker to a Symposium on Raptor Banding held at the annual Raptor Research Foundation meeting in Colorado. Buzz's talk "Twenty-five years of raptor banding at the Marin Headlands: A review of collaborations" underlined the range of things you can learn with a hawk in hand with the right collaborators, from molt to ectoparasites.

In October, one of our former GGRO interns Heather Ishak, along with her professor, Dr. Ravinder Sehgal, and Buzz Hull, published an article on the "Prevalence of blood parasites in migrating and wintering California hawks" in the *Journal of Raptor Research*. Heather's research documented a parasite infection rate of up to 50% of hawks sampled. This was based on Red-tailed and Red-shouldered hawks banded at GGRO in 2004 to 2006.

- ALLEN FISH

D O C E N T S

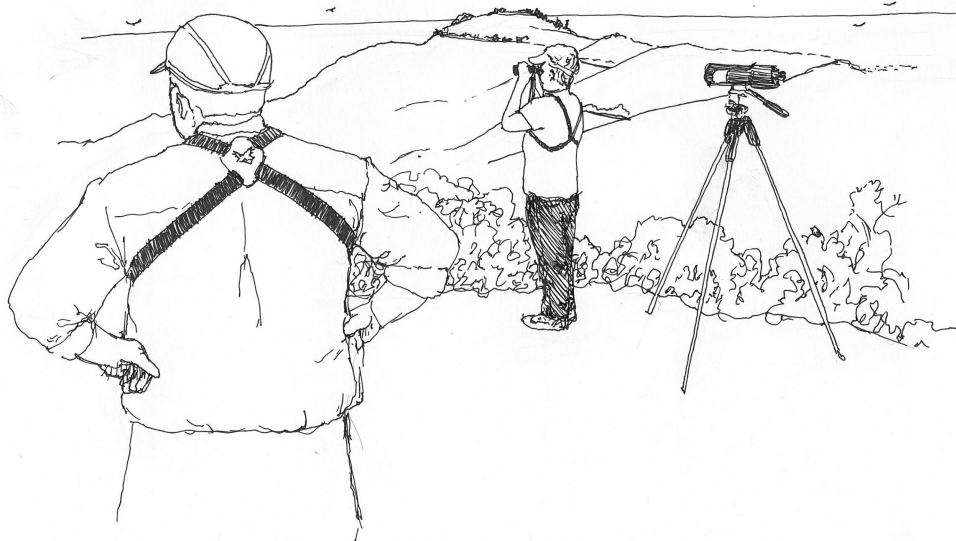
STEFANIE ARTHUR • EVAN BARBOUR • EDDIE BARTLEY • LISA BLANKENSHIP
NATALYA BLUMENFELD • ROBYN BOOTHBY • TOM DELEBO • CARMEN DELEON • ALLEN FISH
MIKE HARKINS • ANNE KOSITSKY • ZEKA KUSPA • CRAIG NIKITAS • PAT OVERSHINER • BETH STURGEON

D O N O R S

Cheryl Abel
Rachel Albright
Rob Allen
George & Stephanie Almeida
Leslie Andrews
Marilyn Armbruster
Kendra Armer
Laura Armor
Stefanie Arthur
Marylou Avanzino

Adam Birek
Carl & Jean Blom
Marc Blumberg
Robert & Marion Blumberg
John & Olive Borgsteadt
Anthony Brake
Johnny Brown
Phyllis Browning
Shannon Burke
Hugh & Pearl Campion

Anne Darragh & David Ford
Dennis Davison & Jean
Perata
Michael & Pamela Dayton
Tom Delebo
Russ DeLong
Frank DeMarco
Janine DeMartini
Charles & Leslie Dicke
Sue Dirksen



*Counters Judy Kaufman and Alane Gray survey the southwestern skies from Slacker Hill.
Hawk Hill hovers just above Alane's binos.*

Diane Bahr
William Barnaby
Juliana Barr
Reginald Barrett
David Barry & Roxi Farwell
Donald Bartling
Guy Baty
Anne Baxter
Linda Becker
Muki Belliappa
Sandra Berggren
Anne Bernstein
F.J. Bethke
Ardith Betts
William Bianco
Thomas Birdsall & Rebecca
Green Birdsall

Lynn Carew
John Caulfield
Shelley & John Chesley
Ronald Cliff
Terry & Zeo Coddington
Joanna Cohen
Sally Cole
George Coles
Ron Colwell
Huguette Combs
Roger & Martha Conant
Kanit Cottrell
Elizabeth Cutler
Jennifer Cutler
Reese & Kathleen Cutler
Charles Cutting
Ludek Dadok

David Dotur
David Driggs
J.D. Durst
Stephen Dykes
George Eade
Wade Eakle
Margaret Edwards
Peter Ehrlich
Robert Elliott
Robert Engel
Richard Engle & Paula
Horowitz
Marian Erdelyi
Janeann Erickson
Natalee Ernstrom
Ron Felzer
Mark Fenn

D O N O R S

Richard Ferris
 Jeanne Fidler
 Virginia Fifield
 Robbie Fischer
 George & Patsy Fish
 Robert Fivis
 Gayle Fuetsch
 Theresa Gabel & Timothy
 Zumwalt
 Kevin Gilmartin & Barbara
 Bessey
 David Ginsburg
 Derek Girman
 Grant Gladman
 Cindy Goral & Jerry Scharf
 Patricia Gotchall
 Alane Gray
 David & Iris Gregoire
 Dorothy Gregor
 Earl Gress
 Keith Gress
 John Griffin
 Derek Grimman
 Mary Haack
 Jerry Hadfield
 Michael Hall
 John Harris
 Judy Harris

George Hartzell
 Hugh Harvey
 Steve Hayashi & Judy Winn-
 Bell
 Jennifer Haynes
 Melissa Hero
 David Herrema
 Jan Hintermeister
 Calvin Hom
 Dick & Diane Horn
 Sam Hontalas
 Tom & Julie Ann Hopkins
 Richard & Terry Horrigan
 Michael House
 Ellen Hughes
 Pearce Hurley
 John Irwin
 Misty Ismail
 Victoria Jackson
 Kathy Jarrett
 George Johnson
 Marcine Johnson
 Barbara Jording
 Cyril Juanitas
 Derry Kabcenell
 Sterling Kinnell
 Nancy Kittle
 Leslie Koenig

Donald Koors & Nancy
 Williams
 Ann Kositsky
 Cheryl Kraywinkel
 Zeka Kuspa
 Coby Lafayette-Kelleher
 Lori Lambertson
 Shelby LaMotte
 Barbara Lancaster
 Owen & Eva-Lynne Leibman
 Mardi Leland
 Winifred Lennihan
 Patricia Lessard
 Peter Leveque
 Pam Lewis
 Marie & Barry Lipman
 Kirsten Liske
 David Loeb
 Mary Lorey
 Paul & Diane Jones Lowrey
 Chris Macintosh
 Dena Macmynowski
 David & Lynne Madison
 Jean Magistrale
 Ron Mallory
 Nancy Martin
 Charles Massen
 Frances McDermott
 Mary McFadden
 Susan McGreevy
 Ewen McKechnie
 John McQuown
 Terry Mead & Lois Reynolds-
 Mead
 Mona & Horacio Mena
 Amy Meyer
 Kim Meyer
 Ivan Meyerson
 Ginnie Mickelson
 Steve Miller
 Sarah Mills
 Margaret Mindell
 Edith Mitchell
 Henry Mitchell
 Nancy Mori
 Denise Mortorff



Bander Marc Blumberg tosses a male Sharp-shinned Hawk into the air for an accipiter identification study with the hawk counters.

D O N O R S

Alida Morzenti
Daniel Murphy
Jean Myers
Mikiye Nakanishi
Kirsten Nielson
Gregg Niceley
Ed Nute
Kathy Odell
Steven O'Donnell
Brian O'Laughlin
Rebecca Olsen & Ken Wilson
Patricia Overshiner
Gary Palmer
Ronald Parker
Jean Perata
Roy Pisetsky
Allan Plumb
Carol Poole
David & Cay Pratt
David Presotto & Caryl Carr

Roberta Preu
Bill Prochnow
William & Karin Rabin
John Rathkey
Gail Richardson
Eileen Richey
Allan Ridley & Helen McKenna-Ridley
Marcy Riseman & Evan Sagerman
Marsha Robins & Bill Porte
Duane & Barbara Robinson
Steven Rock
Marjorie Roth
Elizabeth Rouan
Ruth Royter
Connie Rubiano
Steve Rudolph
Ann Ruffer
Maggie Rufo

Philip Ruhle
Judith Runstrom
Leonard & Elizabeth Rush
Walter Sakai
Serena Salomon
Ivan Samuels
Peter & Barbara Sapienza
Juta Savage
Michael Savino
Rolf & Charlotte Scherman
Birgit Schilling
Norma Pauline Schmid
Marilyn Schmitz
Donald Schmoltd
Linda Schneider
David Sexton
James Shea
Carrie Sherriff
Heidi Munzinger Shott
Martin Sidor
Laura & Kirk Silver
Robin Smith
Ryan Smith
Tate & Curtis Snyder
Sharon Solomon
Sheila Sousa
Colin Specht
Patricia Spencer
Kim Steele
Joan Stewart
Hal Sugishita
Tracy Swartz
Kirk Swenson
Stephen Taylor
Bruce Thompson
Cynthia Thomssen
John Ungar
Linda Vallee
Richard Vanderlugt
Nick & Denise Villa
Jerry Vitenson
Karyn Vogel
Erika Walther
Wendy Warrington



Following a rare Bay Area snowfall, telemetrist Ann Greiner takes readings on Bonnie the Red-tailed Hawk from the upper slopes of Mount Hamilton, circa 4,000 feet.

D O N O R S

Mary & Roman Watt
Noreen Weeden & Eddie
Bartley
Marion Weeks & Stephen
Blossom
Paul Welles
David Wells
Richard Welsh
Nick Whelan
David Wichner
Jeff Wilkinson
Harvey Wilson
Bright Winn
Kathleen Winslow
Elizabeth Wommack
Carolyn & Frederick Wood

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Caryn & Joe Ansel
Kendra Armer
Paul & Joan Armer
Bill Barnaby
Don Bartling
Steven Bauer
Muki Belliappa

Ardith Betts
Robert Blumberg
Gleneda Borton
Herbert & Giselle Brandt
Davida Bushner
Michael Butler
Lynn Carew
Donna Ciccolini
Terry Coddington
Huguette Combs
Gerald Connell
Dennis Davison & Jean
Perata
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Janine DeMartini
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Mark Fenn
George & Patsy Fish
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Alane Gray
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Calvin Hom
Dick & Diane Horn
Sam Hontalas
Pearce Hurley
Marcine Johnson
Mamiko Kawaguchi
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James Shea
Jay Sheets
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Thom Tran
John Ungar
Linda Vallee
Nick & Denise Villa
Marion Weeks
Emily Weil
David Wells
Nancy Willard
Katie Winslow
Kathy Wolf

IN MEMORY

- of *Betty Lobsinger*
Pat & Gayle Berry
Pam & Tony Hebner
Judy Sue

- of *Ruth McHugh*
Mary Frances Schottstaedt

- of *Sally Mills*
Robert Fivis
Dennis Davison & Jean
Perata

- of *Maitland Stanley*
Peggy Stanley

NUMBER OF RAPTORS BANDED 1983-2010, MARIN HEADLANDS*

	1983-2003	2004	2005	2006	2007	2008	2009	2010	Total
Northern Harrier	195	13	0	20	15	5	8	1	257
Sharp-shinned Hawk	5,531	461	676	767	583	646	558	362	9,584
Cooper's Hawk	7,245	719	686	829	1048	504	451	524	12,006
Northern Goshawk	4	0	0	0	1	0	0	0	5
Red-shouldered Hawk	195	18	9	27	24	17	13	2	305
Broad-winged Hawk	14	0	3	3	0	0	2	0	22
Swainson's Hawk	3	0	0	3	2	0	0	1	9
Red-tailed Hawk	6,047	489	121	381	452	280	226	114	8,110
Ferruginous Hawk	2	0	0	0	0	0	0	0	2
Rough-legged Hawk	3	0	0	1	1	0	0	0	5
Golden Eagle	2	0	0	0	0	0	0	0	2
American Kestrel	691	62	63	90	59	38	73	82	1,158
Merlin	188	29	56	57	51	27	62	52	522
Peregrine Falcon	45	5	4	3	5	10	3	2	77
Prairie Falcon	18	6	3	1	1	3	3	1	36
Eurasian Kestrel	0	0	0	0	1	0	0	0	1
Total	20,183	1,802	1,621	2,182	2,243	1,530	1,399	1,141	32,101

* Data compiled by Buzz Hull. 2010 data are through January 3, 2011.

NUMBER OF RAPTOR SIGHTINGS 2001-2010, MARIN HEADLANDS*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hours	446	524	490	536	455	493	524	508	497	
Turkey Vulture	8,307	11,046	10,786	10,250	7,876	9,212	9,222	7,515	8,060	
Osprey	71	106	133	128	110	108	90	88	81	
White-tailed Kite	86	79	63	204	66	130	71	69	93	
Bald Eagle	4	4	4	3	6	2	2	6	10	
Northern Harrier	698	1,318	352	960	459	1,090	1,002	457	614	
Sharp-shinned Hawk	3,373	5,844	5,208	3,260	4,406	5,250	4,636	4,087	3,332	
Cooper's Hawk	1,815	2,769	2,018	2,460	2,426	3,370	3,722	1,951	1,738	
Northern Goshawk	2	0	1	0	0	0	4	2	1	
Red-shouldered Hawk	485	677	288	548	149	613	512	559	529	
Broad-winged Hawk	89	180	123	42	146	183	70	131	180	
Swainson's Hawk	5	9	8	5	4	7	12	1	1	
Red-tailed Hawk	8,353	12,194	6,986	13,303	7,272	11,411	11,872	6,836	8,297	
Ferruginous Hawk	18	34	14	37	33	25	13	15	11	
Rough-legged Hawk	5	12	1	0	4	21	10	4	2	
Golden Eagle	22	21	14	22	13	24	38	18	11	
American Kestrel	580	670	694	551	627	612	378	377	458	
Merlin	150	208	170	173	198	230	140	184	149	
Peregrine Falcon	134	105	220	233	218	237	181	223	259	
Prairie Falcon	5	12	12	10	5	8	4	7	9	
Unidentified	1,158	1,358	1,233	1,474	1,442	1,435	1,383	903	991	
Total	25,360	36,646	28,329**	33,663	25,461	33,968	33,362	23,434**	24,826	
Raptor Activity (raptors per hour)	56.9	69.9	57.8	62.8	56.0	68.9	63.7	46.1	50.00	

2010 counts were made from two locations and can't be compared with previous years. See page 6.

* Data compiled by Allen Fish. 2010 data are still under review.
 ** Includes 1 Mississippi Kite.

Golden Gate Raptor Observatory

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GGRO Season Summary 2010

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The Golden Gate Raptor Observatory is a program of the Golden Gate National Parks Conservancy in cooperation with the National Park Service.

