Cape Fear Skies

The Official Newsletter of the
Cape Fear Astronomical Society
Wilmington, North Carolina

A Member Society of the Astronomical League

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www.capefearastro.org

CAPE FEAR ASTRONOMICAL SOCIETY
WILMINGTON, NORTH CAROLINA

This Month's Meeting /
CFAS Annual Christmas Party
Sunday, December 3, 2006

At the Kidney Residence
1206 Beeston Court
Wilmington, NC

The Cape Fear Astronomical Society 2006 Christmas Party will begin at 5:30 pm with the general meeting to follow.

Directions to the Kidney Residence:

From College Road - Exit on to Gordon Rd 420A. At the bottom of the ramp turn right onto Gordon Rd. At the 1st traffic light make a left onto Harris Rd. Go 1.1 mile and make a right onto Shire Lane. Make your 2nd left onto Beeston Court.

From Market St. heading toward downtown - Make a right onto Gordon Road. Go to the 3rd traffic light and make a right onto Harris Rd. Go 1.1 mile and make a right onto Shire Lane. Make your 2nd left onto Beeston Court.

Editor: Ric Longren
6612 Shire Road
Wilmington, NC 28411

CAPE FEAR ASTRONOMICAL SOCIETY
WILMINGTON, NORTH CAROLINA

Cape Fear Astronomical Society

Meeting minutes by Letisha McLaughlin, CFAS Secretary

Meeting Minutes for November 5th CFAS Meeting
President Ronnie Hawes called the November meeting of the CFAS to order at 7:13 PM on November 5, 2006 in the Morton Hall Auditorium. Twenty-three club members attended along with 4 visitors, including a family of three and one lone individual.

Officer's Report:

Ronnie Hawes reminded the club that the next meeting in Morton Auditorium will be on January 7th, 2007. The December meeting will be held at Billy Kidney's house in lieu of the annual Holiday Social. Everyone is asked to bring a covered dish and to dress to impress as we will take the club photograph.

CFAS Treasurer Ben Steelman announced the status of the club's saving's account is approximately $1,800. A couple business items will soon cause this amount to decrease slightly- including the check which must be sent to Clint North and the clearing of the check for the Astronomical League dues.

Ronnie Hawes also commented on his recent conversation with Clint North concerning payment for the use of his property for sky watching. Because the matter had just been addressed with Mr. Steelman, no other discussion was necessary.

Old Business:

November is officially the second month for CFAS officer nominations. Previously, the following were nominated for positions:

President- Ronnie Hawes

Vice President- Terry Herrin
Associate Vice President- Alan Hilburn
Secretary- Letisha McLaughlin
Treasurer- Ben Steelman
Newsletter Editor- No one

Nominations began with the announcement that Ric Longren had given permission to include him as a candidate for newsletter editor, despite his absence from the meeting. The club readily nominated Mr. Longren.

Billy Kidney was nominated for the presidential position- however, CFAS constitution prevents anyone from being chosen as a possible candidate without he or she accepting in the form of a verbal agreement at the time of the meeting or by some written documentation. Because Mr. Kidney was ill and unable to attend, nor had he given any other club member written permission, this nomination could not be allowed. Club member Susan Buccini reminded the club that Mr. Kidney could still be considered for president via write-in voting at the holiday social instead of a traditional nomination.

New Business:

Susan Buccini, currently the club member voluntarily maintaining the Cape Fear Astronomical Society's website, requested someone else to graciously take over for her. Rich Williams did so immediately. Plans to make this transition are ongoing between the two members for early next year.

Viewing Report:

President Ronnie Hawes announced he had bought a new Coronado Personal Solar Telescope with hydrogen-alpha and calcium filters.

Wednesday, November 8th, Mercury will transit the solar disc beginning around 2:12 PM and ending at sunset. The best place to view this event is in the middle of the Pacific Ocean, but Wilmington will have some nice observing also. Pictures of former transits are available at the CFAS website.

August 20, 2017 presents an opportunity to see a total solar eclipse, according to Mr. Hawes. This event will most likely be best viewed in Charleston, SC. The group also verified that #14 welder's glasses are the safest for viewing solar eclipses.

The club announced a possible viewing the Sunday following the November meeting.

Tom Jacobs excitedly reported that the Mid Atlantic Star Party, or MASP, this year was a great success. Over 400 people christened the new site, including five of our own which were present at the meeting. There was amazing photography and viewing opportunities of planetaries and Messier objects. Mr. Jacobs said there were several large telescopes, but the 30 in couldn't make it this year.

Ronnie Hawes commented that Billy Kidney had purchased Paul Petty's 13.3 in. telescope.

Southeastern Camera, located at 1351 South Kerr Avenue, has asked if they would have our cooperation for a possible telescope expo. They are a large telescope and binocular retailer, but focus mainly on photography here in Wilmington.

One member inquired if our club could institute a long-term calendar of events. At present, only the current month's events are printed in the newsletter and website.

Jonathon Guetta has agreed to begin plans concerning a new CFAS club t-shirt. He and Susan Buccini discussed which club logo would be best for printing and where he could access the appropriate one.

Ronnie Hawes welcomed new club member Thad Coin.

Because Mr. Billy Kidney was ill, the scheduled presentation for the night was canceled. Instead, a video, "Universe," was shown. As Tom Jacobs commented, it was "a video of unknown origins!"

News Cluster

- The CFAS annual Christmas Party will be hosted for the 3rd year in a row by Billy and Kristy Kidney on December 3 starting at 5:30 pm. (directions on the front of Newsletter). Bring your family and a covered dish. Please email Billy and let him know what you will be bringing. Billy will be making a ham for all to enjoy.
- During the party there will be a short meeting to elect the 2007 CFAS Officers. Nominations are as follows:

President	Ronnie Hawes
Vice President	Terry Herrin
Associate Vice President	Alan Hilburn
Secretary	Letisha McLaughlin
Treasurer	Ben Steelman
Newsletter Editor	Ric Longren

Write-in votes will be accepted on the ballot provided.

Event Calendar for December 2006

December 1	Moon at perigee (227,374 miles), 7:06 pm
December 3	**CFAS Annual Christmas Party, 5:30 pm**
December 4	Full Moon, 7:25 pm
December 12	Last quarter Moon, 9:32 am
December 14	Geminid meteor shower peaks
Dec 15/16	**CFAS Group Viewing Sessions**
December 20	New Moon, 9:01 am
December 21	Winter Solstice, 7:22 pm
Dec 22/23	**CFAS Group Viewing Sessions**
December 25	Christmas
December 27	Moon at perigee (230,108 miles), 9:19 pm
December 31	New Year's Eve

All times are EST unless otherwise noted

Astronomical History During the Month of December

Date	Milestone
Dec 3, 1973	Pioneer 10 flies past Jupiter; first spacecraft to reach the giant planet.
Dec 14, 1962	Mariner 2 reaches Venus; first successful planetary flyby
Dec 15, 1970	Venera 7 lands on Venus; first spacecraft to transmit data from surface of another planet
Dec 20, 1996	Carl Sagan, the 20th century's foremost popularizer of astronomy dies at age 62
Dec 24, 1968	Apollo 8 astronauts are the first humans to reach Moon (first orbital missio

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Please Welcome to CFAS:
Luther Hager
311 Genoe's Point Road SW
Supply, NC 28462
Phone: 846-5421

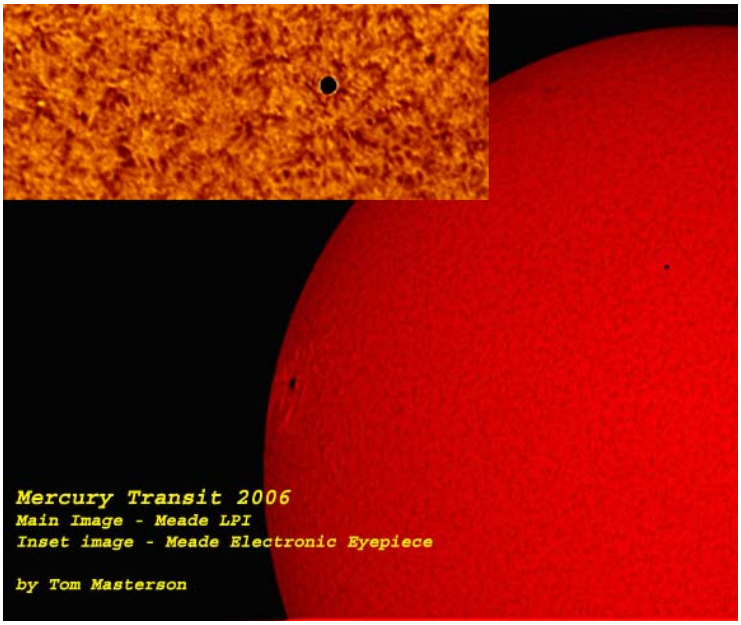
News from Our Sister Society Down Under
Astronomical Society of Albury - Wodonga

Astronomical and related matters.

- **Bob Price** suggested that ASAW Inc develop **an 'award' system** (certificate?) to recognize a member's outstanding service to the Club. This matter to be further discussed at the December 06 and/or February 07 meetings.
- **Bob Price** also suggested that ASAW Inc approve a Club badge for members to buy. Carl and Bob to provide further information to be discussed at the December 06 meeting.
- **John Gurkin** presented computerized images of Star Parties and discussed associated matters relating to setting up, facilities and requirements.
- **Bob Price** discussed the mares and craters of the North East quadrant of the Moon.

Photo Gallery

Unfortunately, last month's transit of Mercury was a wash out for Wilmington and many other parts of North America. Many thanks to member Susan Buccini for passing along the following photo from her good friend Tom Masterson.



Meteor Showers in 2007

Name	Peak	Moon's Phase	Prospects
Quadrantids	Jan 3	Full	Poor
Lyrids	April 22	Waxing crescent	Good
Eta Aquarids	May 5	Waning gibbous	Poor
Perseids	Aug 13	New	Excellent
Orionids	Oct 21	Waxing gibbous	Fair
Leonids	Nov 17	First quarter	Good
Geminids	Dec 14	Waxing crescent	Good

NASA's Mars Global Surveyor May be at Mission's End
November 21, 2006 (www.jpl.nasa.gov)

Pasadena, Calif. - NASA's Mars Global Surveyor has likely finished its operating career. The spacecraft has served the longest and been the most productive of any mission ever sent to the red planet.

"Mars Global Surveyor has surpassed all expectations," said Michael Meyer, NASA's lead scientist for Mars exploration at NASA Headquarters, Washington. "It has already been the most productive science mission to Mars, and it will yield more discoveries as the treasury of observations it has made continues to be analyzed for years to come." Its camera has returned more than 240,000 images to Earth.

The orbiter has not communicated with Earth since Nov. 2. Preliminary indications are that a solar panel became difficult to pivot, raising the possibility that the spacecraft may no longer be able to generate enough power to communicate. Engineers are also exploring other possible explanations for the radio silence.

"Realistically, we have run through the most likely possibilities for re-establishing communication, and we are facing the likelihood that the amazing flow of scientific observations from Mars Global Surveyor is over," said Fuk Li, Mars Exploration Program manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "We are not giving up hope, though."

Efforts to regain contact with the spacecraft and determine what has happened to it will continue. NASA's newest Mars spacecraft, the Mars Reconnaissance Orbiter, pointed its cameras toward Mars Global Surveyor on Monday. "We have looked for Mars Global Surveyor with the star tracker, the context camera and the high-resolution camera on Mars Reconnaissance Orbiter," said Doug McCuistion, Mars Exploration Program director at NASA Headquarters. "Preliminary analysis of the images did not show any definitive sightings of a spacecraft."

The next possibility for learning more about Mars Global Surveyor's status is a plan to send it a command to use a transmitter that could be heard by one of NASA's Mars Exploration Rovers later this week.

Mars Global Surveyor launched on Nov. 7, 1996, and began orbiting Mars on Sept. 11, 1997. It pioneered the use of aerobraking at Mars, using careful dips into the atmosphere for friction to shrink a long elliptical orbit into a nearly circular one. The mission then started its primary mapping phase in April 1999. The original plan was to examine the planet for one Mars year, nearly two Earth years. Based on the value of the science returned by the spacecraft, NASA extended its mission four times.

"It is an extraordinary machine that has done things the designers never envisioned despite a broken wing, a failed gyro and a worn-out reaction wheel. The builders and operating staff can be proud of their legacy of scientific discoveries and key support for subsequent missions," said Tom Thorpe, project manager for Mars Global Surveyor at JPL.

The spacecraft evaluated landing sites for the twin NASA rovers that landed in 2004 and sites for future landings of the Phoenix and Mars Science Laboratory missions. It monitored atmospheric conditions during aerobraking by newer orbiters. It served as a relay link for the rovers and provided mapping information about their surroundings.

"When we watched the launch 10 years ago, we wondered if we would make the specified mission length. We certainly were not thinking of a 10-year operating life," said JPL retiree Glenn Cunningham, who managed the Global Surveyor project through development and launch.

A few of the mission's many important discoveries about Mars include:

-- The spacecraft's camera found gullies cut into many slopes that have few, if any, impact craters. This indicates the gullies are geologically young. Scientists interpret this as evidence of action by liquid water, essentially in modern times.

-- The mineral-mapping infrared spectrometer found concentrations of a mineral that often forms under wet conditions, fine-grained hematite. This discovery led to selection of a hematite-rich region as the landing site for NASA's Mars Exploration Rover Opportunity.

-- Laser altimeter measurements have produced an unprecedented global topographic map of Mars. The instrument revealed a multitude of highly eroded or buried craters too subtle for previous observation, and mapped canyons within the polar ice caps.

-- The magnetometer found localized remnant magnetic fields, indicating that Mars once had a global magnetic field like Earth's, shielding the surface from deadly cosmic rays.

-- The camera found a fan-shaped area of interweaving, curved ridges interpreted as evidence of an ancient river delta resulting from persistent flow of water over an extended period in the planet's ancient past.

-- A long life allowed Global Surveyor to track changes through repeated annual cycles. For three Martian summers in a row, deposits of carbon-dioxide ice near Mars' South Pole shrunk from the previous year's size, suggesting a climate change in progress.

Sudoku 5, 55, 145, 335, 525, 5

More sudoku from easy to nearly impossible.

Complete the grid so every row, column and 3 x 3 box contains every digit from 1 to 9 inclusively. Stars indicate level of difficulty. Answers on the next page 7.

7	9	8		3		4		
1		3	4		2			9
			9			8		
	3		6	1		2		5
4		9	7		5	6		3
6		2		9	8		4	
		6			9			
5			2		3	9		7
		4		6		3	5	8

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			7					
1	2		9			4		7
		9	5	2			8	1
	6		3		2	5	9	
	3	2	6		9		7	
8	1			9	5	7		
6		4			8		2	5
					6			

★★☆☆☆

				4				
				1		8		
	3		5			2		4
		8	1	5				6
7		3				1		2
9				6	3	4		
1		7			8		3	
		2		3				
				7				

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	4			5	6	1		
	2						9	4
			4			6	7	
			3	2				
8								9
				1	7			
	3	4			2			
2	9						4	
		1	9	6			2	

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9	7		8			4		
		6			7		2	
5		8						9
		4		8	1			
	9			6			3	
			4	3		5		
4						9		1
	6		1			2		
		9			8		5	6

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Supper Sudoku. Complete the grid so every row, column and 4 x 4 box contains every digit from 0 to 9 and letters from A to F inclusively. Good luck!

2		D				6		9	A	C			7		1
			0	E		D					4	C	8	9	5
C			8	9		B	1	6		E	2			0	
	5						3			1		E			2
		8	4		6		D		0					F	
	C				0	1		8		B	E		6	A	
7		E	D	2		C	A		6		5	4			
	9			3			E				A		B		D
	D		5	A	3				B		8	9			7
			2	5					C	6	1				
F				1		9	0	3					A	B	4
3			B	8		F	C	7		2		5	0		
D	A	F	C			0		4					9	3	
	2		6		8			1	7			F			E
				6			F				B				A
0	7	5				2	B		F	A		6		C	8

Solutions:

7	9	8	5	3	6	4	1	2
1	6	3	4	8	2	9	2	6
2	4	5	9	7	1	4	3	1
8	3	7	6	1	4	2	9	5
4	1	9	7	2	5	6	8	3
6	5	2	3	9	8	7	4	1
3	7	6	8	5	9	1	2	4
5	8	1	2	4	3	9	6	7
9	2	4	1	6	7	3	5	8

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4	8	5	7	6	1	9	3	2
1	2	6	9	8	3	4	5	7
3	7	9	5	2	4	6	8	1
7	6	8	3	1	2	5	9	4
9	4	1	8	5	7	2	6	3
5	3	2	6	4	9	1	7	8
8	1	3	2	9	5	7	4	6
6	9	4	1	7	8	3	2	5
2	5	7	4	3	6	8	1	9

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2	8	9	7	4	6	5	1	3
5	7	4	3	1	2	8	6	9
6	3	1	5	8	9	2	7	4
4	2	8	1	5	7	3	9	6
7	6	3	8	9	4	1	5	2
9	1	5	2	6	3	4	8	7
1	4	7	9	2	8	6	3	5
8	9	2	6	3	5	7	4	1
3	5	6	4	7	1	9	2	8

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7	4	9	2	5	6	1	8	3
3	2	6	1	7	8	5	9	4
1	5	8	4	9	3	6	7	2
4	1	5	3	2	9	7	6	8
8	7	3	6	4	5	2	1	9
9	6	2	8	1	7	4	3	5
6	3	4	7	8	2	9	5	1
2	9	7	5	3	1	8	4	6
5	8	1	9	6	4	3	2	7

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9	7	1	8	2	3	4	6	5
3	4	6	9	5	7	1	2	8
5	2	8	6	1	4	3	7	9
7	3	4	5	8	1	6	9	2
1	9	5	7	6	2	8	3	4
6	8	2	4	3	9	5	1	7
4	5	3	2	7	6	9	8	1
9	6	7	1	9	5	2	4	3
2	1	9	3	4	8	7	5	6

★★★★★

2	3	D	E	0	5	6	8	9	A	C	F	B	7	4	1
1	F	6	0	E	A	D	2	B	3	7	4	C	8	9	5
C	4	7	8	9	F	B	1	6	5	E	2	A	D	0	3
9	5	B	A	C	4	7	3	D	8	1	0	E	F	6	2
A	1	8	4	B	6	5	D	2	0	9	7	3	E	F	C
5	C	2	3	F	0	1	4	8	D	B	E	7	6	A	9
7	B	E	D	2	9	C	A	F	6	3	5	4	1	8	0
6	9	0	F	3	7	8	E	C	1	4	A	2	B	5	D
4	D	1	5	A	3	E	6	0	B	F	8	9	C	2	7
8	0	9	2	5	B	4	7	A	C	6	1	D	3	E	F
F	6	C	7	1	2	9	0	3	E	5	D	8	A	B	4
3	E	A	B	8	D	F	C	7	4	2	9	5	0	1	6
D	A	F	C	7	E	0	5	4	2	8	6	1	9	3	B
B	2	3	6	4	8	A	9	1	7	0	C	F	5	D	E
E	8	4	1	6	C	3	F	5	9	D	B	0	2	7	A
0	7	5	9	D	1	2	B	E	F	A	3	6	4	C	8

Meetings of the CFAS are held on the first Sunday of The month (if holiday weekend or special event, second Sunday) at

7:00pm – Bryan Auditorium, Morton Hall, UNCW

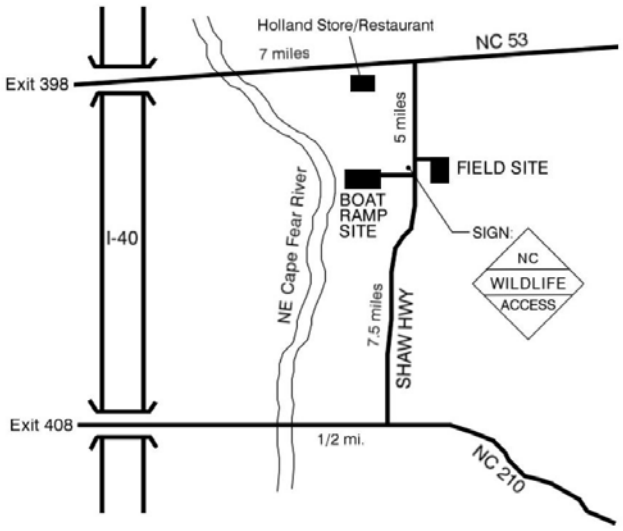
Group Viewing Sessions 5194

Call Ron Hawes at 762-1033 or check our email list to confirm a formal viewing session. Listed below are moonless nights so you can schedule a good viewing. All group viewing sessions will be at the Holly Shelter boat ramp site, unless otherwise specified. Time: Dusk until ?

Friday, December 15	Saturday, December 16
Friday, December 22	Saturday, December 23

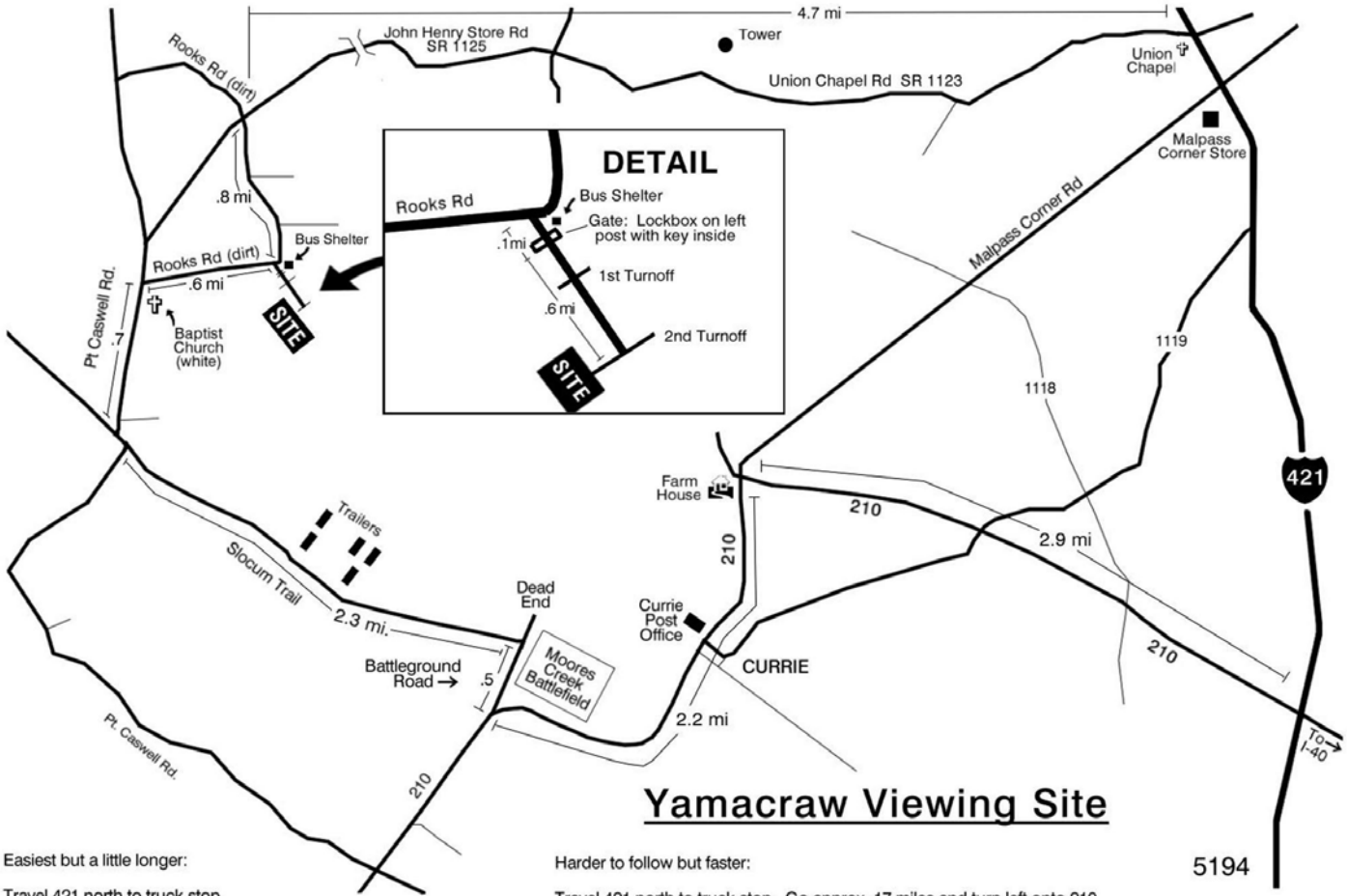
Please be cautious of unusual wildlife behavior while observing. A golf club or stick could be useful to keep nearby.

Holly Shelter Viewing Sites



Field Site Gate Open:
September 1 - February 29 and April 7 - May 14.

Please have your Holly Shelter Permit with you at the site.



Yamacraw Viewing Site

Easiest but a little longer:

Travel 421 north to truck stop.
Go approx. 20.5 miles and turn left onto Union Chapel Road.
Follow for 4.7 miles (becomes John Henry Store Road) and take left onto Rooks Road (dirt).
Follow Rooks Road .8 miles around curve, pass bus shelter and take left onto our site's road.
Travel .1 mile, unlock/relock gate, travel .6 miles, take 2nd right.

Harder to follow but faster:

5194

Travel 421 north to truck stop. Go approx. 17 miles and turn left onto 210.
Follow 210 for 2.9 miles to intersection (stop sign and big white farm house), turn left onto 210 W.
Follow 210 W past Currie Post Office and Battlefield, turn right onto Battleground Rd.
Follow Battleground Rd .5 miles, take sharp left onto Slocum Rd, follow for 2.3 miles.
Take a right onto Pt. Caswell Rd, follow .7 miles past Church, take right onto Rooks Road (dirt).
Follow Rooks Rd .6 miles, turn right onto our site's road. (If you see the bus shelter, you've gone too far.)
Travel .1 miles, unlock/relock gate, travel .6 miles, take the 2nd road on the right to our site.