WWALS Watershed Coalition, Inc.
a WATERKEEPER® Alliance Affiliate
a 501(c)(3) nonprofit charity

PO Box 88, Hahira, GA 31632
wwalswatershed@gmail.com
www.wwals.net

November 16, 2015

Randy Harris
Suwannee County Administrator
randyh@suwgov.org

Re: Resolution about Sabal Trail pipeline

Dear Administrator Harris,

Per request of Chairman Bashaw to Suwannee County resident Debra Johnson, I am sending you PDF of some documents related to that pipeline. Could you print them and distribute them to the other Commissioners, please?

Thanks for handling this.

Sincerely,

[/S]

John S. Quarterman, President

229-242-0102

CC: Jason Bashaw, commissioner1@suwgov.org

Debra Johnson, debrastartech@gmail.com

WWALS Watershed Coalition advocates for conservation and stewardship of the
Withlacoochee, Willacoochee, Alapaha, Little, and Upper Suwannee River watersheds in south Georgia and north Florida
through awareness, environmental monitoring, and citizen activities.

Attachments:

Sabal Trail Exhibit 21: Overview Map Falmouth Cave STT Exhibit 19

Falmouth Dye Trace

Aquifer vulnerability map

Minisink summary

SRWMD Memorandum

Dennis Price geology report

Addendum 5 from Suwannee River State Park Management Plan

DEP recreation flyer

Fig. 6 and Conclusion from David Brown hydrogeology report

Sabal Trail Exhibit 53: Composite Maps of Crayfish Locations

EPA to FERC: cover letter

Spectra Energy pipeline explosion under Arkansas River in Little Rock

Map ID	Spring Name	Magnitude	Distance From HDD Crossing (miles)
1	SUW923972 (SUWANNEE)	4	0.2
2	SEVEN SISTERS SPRING (HAMILTON)	N/A	0.7
3	STEVENSON SPRING	2	0.7
4	HAM923973 (HAMILTON)	3	0.9

Suwannee River
Stevenson Cave System
Withlacoochee River
Lime Spring
Suwanacoochee Cave System
Lime Run Spring
Suwanacoochee Spring
Ellaville Spring
Falmouth Cathedral Cave System
Falmouth Karst Window
45
40
I-10

Legend

- First Magnitude Springs
- Second Magnitude Springs
- Third Magnitude and Greater Springs
- Cave Systems
- Major Rivers
- Upper Floridan Aquifer Potsurface 2005 (May)
- Upper Floridan Groundwater Flow Paths
- Highway System
- Pipeline Centerline Route
- 1 mile Radius from the HDD Crossing

N

Data Source: ESRI

This map and all data contained within are supplied as is with no warranty. Cardno Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

0 0.4 0.8 1.6 Miles
0 0.5 1 2 Kilometers

Suwannee River HDD Crossing Analysis

Sabal Trail Transmission Pipeline
Various Counties, Florida

Cardno®
Shaping the Future
3905 Crescent Park Drive, Riverview, FL 33578 USA
Phone (+1) 813-664-4500 Fax (+1) 813-664-0440
www.cardno.com

FOR IMMEDIATE RELEASE

CONTACT: Abby Johnson Office of Communications
Suwannee River Water Management District
386.362.1001 or 800.226.1066 (FL)
www.mysuwanneeriver.com

Falmouth dye trace reveals unknown connectivity

Falmouth dye trace shows connection to Ellaville and Suwannacooche Springs

LIVE OAK, FL, December 4, 2014 – The District and Florida Geological Survey introduced dye into Falmouth Spring On September 4th, in hopes of learning which other springs were connected to the known Falmouth Cathedral Cave System. Two days after the dye was release the dye appeared in two springs previously not known to be connected, Ellaville and Suwannacoochee.

Ellaville is located next to Suwannee River State Park on the south side of the Suwannee River, while Suwannacoochee is located north of the Suwannee and flows into the Withlachoochee River from the west. These two springs are connected by the Suwannacoochee Cave System. Four days later the dye appeared in two other springs, Lime Run Spring and Lime Spring, both of which were thought to be connected to the Falmouth Cathedral Cave System. Further analyses of collected samples may reveal connections to other springs in the area.

"It is truly exciting to explore and gain an increased understanding about the natural hydrology. This type of information sets the District in a better position to protect resources, namely the Upper Florida Aquifer," said Executive Director, Ann Shortelle, Ph. D.

For more information about springs within the District,
www.mysuwanneeriver.com/springs or contact Erich Marzolf, Ph.D. 386-362-1001.

###

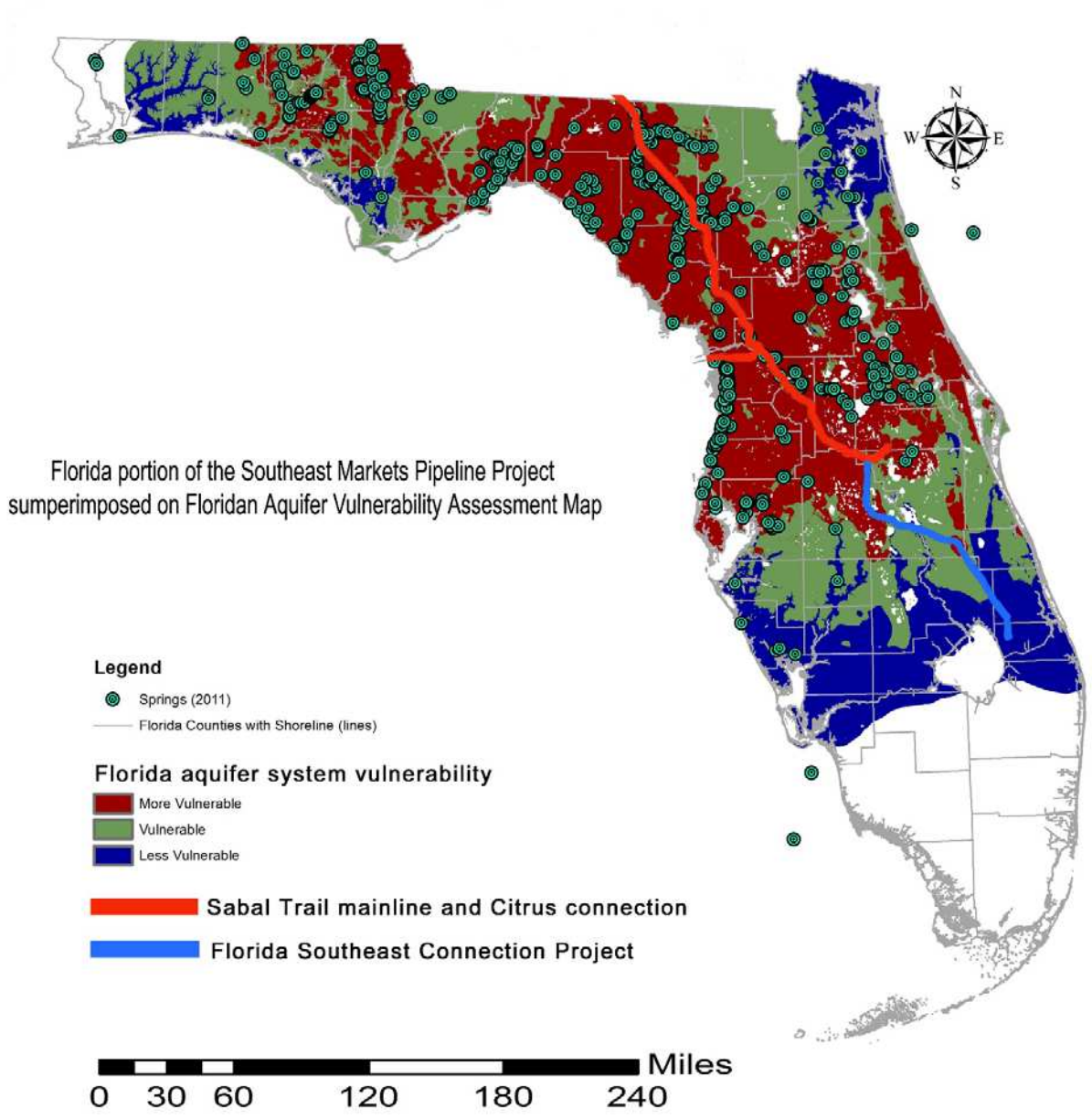

Figure 1: Florida portion of the Southeast Markets Pipeline Project superimposed on Floridan aquifer vulnerabilty assessment (FAVA) map. FAVA data from: *http://www.dep.state.fl.us/geology/programs/hydrogeology/fava_gis_data.htm*

SWPA-EHP
SOUTHWEST PENNSYLVANIA ENVIRONMENTAL HEALTH PROJECT
www.environmentalhealthproject.org

Summary of Minisink Monitoring Results

The Minisink compressor station has been in operation since the summer of 2013. Families living within a few kilometers of the station have been experiencing episodic health symptoms since the station began operation. The facility is a 12,000 horsepower compressor. At the request of the community, EHP placed 5 Speck particulate matter (PM 2.5) monitors near residences from October 19 – December 17, 2014 and collected health information from 8 families living within 1.5 kilometers of the site. Residents also collected air samples of VOCs using Summa canisters on four occasions.

Major Findings

SUMMARY OF HEALTH IMPACTS

EHP collected health information from 35 individuals, 12 of whom are children. A medical professional collected the data. Symptoms that developed after the potential exposure period (beginning summer 2013) or worsening pre-existing symptoms without a more plausible cause were reviewed. The health findings are consistent with information from other research reported in peer-reviewed literature and by other environmental health organizations. The predominant health impacts reported were:

- Respiratory problems (22, includes 6 experiencing nosebleeds)
- Neurological problems, (12, all of whom report headaches)
- Dermatological problems (10, skin rashes)
- Overall physical health self-assessments, when compared to a national standard (SF36), are below normal for 2 out of the 8 individuals who completed the SF36. Overall mental health and wellbeing levels were below normal for half of the respondents.

PM2.5 MONITORING RESULTS

Monitoring of PM2.5 outside residences near the Minisink Compressor station demonstrated the following:

- Four of the 5 Speck monitors recorded elevated PM2.5 baseline values in outside ambient air compared to regional levels of AQI PM2.5 reported from Newburgh, NY Airport. The average hourly AQI for the monitoring period was 6.4 ug/m3. The average hourly values for the Specks ranged from 4 to 20

ug/m3. The Speck monitor that recorded the lowest average PM2.5 value was separated from the compressor station by 2 valleys, likely showing the effect of topography. (Table 1)

- There were times when more than one monitor showed unusually high PM2.5 values. (Table 2)
- All residential 24-hour averages of PM2.5 outside levels were below the EPA level of concern (35ug/m^3), with one exception. One home had one 24-hour period with an average of 64ug/m^3. This shows how the standard 24-hour averaging time can mask peak exposures.
- Periods of low wind speed and nighttime (especially early morning hours) were found to increase potential exposures to PM2.5 and any associated chemicals at residences near the compressor station.

Table 1. Baseline hourly average PM2.5 levels recorded by Speck monitors for entire monitoring period (Oct 19 – Dec 17 2014). Values in ug/m3.

DISTANCE (km) from compressor	0.5		0.5	0.8	1.5		1.0
SPECK ID	A		B	C	D		E
Average	14.6		8.7	11	4		20
Range of baseline	10-30		1-21	5-25	1-20		15-25

Table 2. Episodic high levels of PM2.5 outside multiple homes occurred within similar time frames seven times over 59 days. These results are based on hourly averages of ug/m3 values.

Date of Peak event	# of monitors showing a peak out of # in use	Recorded peak levels	Daily AQI average
10/30	**3/4**	**31, 90, 426**	**5.0**
11/5	**2/5**	**33, 57**	**5.5**
11/7	**3/5**	**36.5, 114, 133**	**5.3**
11/12	**4/5**	**53.7, 131, 269, 325**	**9.0**
12/3	**3/5**	**40, 235, 399**	**5.0**
12/6	**2/5**	**76, 160**	**10.8**
12/17	**3/5**	**99, 162, 229**	**9.9**

Tables 1 and 2 show that although hourly baseline Speck values averaged between 4 and 20 ug/m3, peaks in PM2.5 were recorded at multiple sites on the same days

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with values between 31 and 426 ug/m3. Concurrently, the average regional AQI for the same time period was 6.4ug/m3.

SUMMA CANISTER RESULTS

Four chemical samples were taken outside of four homes in November 2014. The chemicals detected are the same chemicals found at numerous shale gas development facilities by other researchers. The sampling times do not correlate with recorded peaks of PM2.5, so likely show what might be in the air in between episodic peaks.

Chemicals	**Summa canister results as of 12.12.2014**			
	11.4.14	**11.12.14**	**11.9.14**	**11.12.14**
	12hr overnight	**12hr day**	**12hr day**	**grab**
Methane	2.4ppmv	3.0ppmv	2.25ppmv	2.4ppmv
Acetone	7.9ug/m3 3.3ppb		5.9ug/m3 2.5ppb	
Dichlorodifluoromethane (CFC12)	2.2ug/m3 0.45ppb	2.5ug/m3 0.51ppb	2.6ug/m3 0.52ppb	2.5ug/m3 0.52ppb
Ethanol	27ug/m3 14ppb		44ug/m3 23ppb	
Ethylbenzene			0.99ug/m3 0.23ppb	
Propene		2.7ug/m3 1.6ppb		
Toluene	1.0ug/m3 0.27ppb	1.5ug/m3 0.4ppb	0.7ug/m3 0.19ppb	1.2ug/m3 0.32ppb
Trichlorofluoromethane	1.3 ug/m3 0.24ppb	2.3 ugm3 0.4ppb	1.6ug/m3 0.28ppb	1.6ug/m3 0.29ppb
Trichlorotrifluoroethane			0.66ug/m3 0.086ppb	

The levels of reported VOCs were not high in terms of health effects for a single chemical exposure, but are still of concern if these exposures occur over a long period of time or if high spikes periodically occur.

Conclusions

Based on the monitoring results and health intakes, EHP finds that families living near the Minisink Compressor station are exposed to elevated levels of PM2.5, when compared to the regional AQI. PM2.5 is one of a number of air pollutants associated with compressor stations. Summa canister sampling revealed that some of these

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chemicals are present in the air near the monitored homes. This leads us to conclude that residents are exposed to air pollution from the Minisink compressor.

The episodic nature of health symptoms reported by residents is likely associated with the episodic high emissions that come from the compressor station. This conclusion is supported by the periodically high levels of PM2.5 recorded by the Speck monitors. While baseline levels of PM2.5 are relatively low, high short-term spikes may have health effects that are not currently evident. We recommend that health symptoms be monitored over time.

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SUWANNEE RIVER WATER MANAGEMENT DISTRICT

April 18, 2014

Ms. Jessica Harris
Environmental Engineer
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: Federal Energy Regulatory Commission (FERC)
Southeast Market Pipelines (SMP) – Sabal Trail Project
Docket No. PF14-1-000 and PF14-2-000

Dear Ms. Harris:

The Suwannee River Water Management District (District) has reviewed preliminary information concerning the SMP project for the installation of a gas transmission pipeline from Hamilton to Martin counties in Florida. The proposed pipeline route crosses four counties and two major rivers within the District. The two proposed river crossings appear to be within extremely sensitive karst regions and could have significant impacts to the District's water resources including our rivers, springs and water supplies. The attached memorandum describes District staff's review, concerns, and recommendations on the proposed pipeline route.

The District does not oppose the installation of pipelines and understands the value these projects provide to Florida's economy. However we do recommend that the proposed pipeline route be modified to avoid highly sensitive water resource features, karst topography, and unconfined drinking water sources (Floridan Aquifer) within the District. We appreciate the opportunity to review these preliminary documents and look forward to working with the Federal Energy Regulatory Commission staff to provide the necessary information needed to find a more suitable route for the proposed pipeline.

Respectfully,

Ann B. Shortelle, Ph.D.
Executive Director

cc: Suwannee River Water Management District Governing Board
Herschel Vinyard, Secretary, Florida Department of Environmental Protection

Enclosure

MEMORANDUM

TO: Ms. Jessica M. Harris, Environmental Engineer

FROM: Carlos D. Herd, P.G., Director, Water Supply Division
Dale Jenkins, P.G., Sr. Hydrogeologist, Water Supply Division

THROUGH: Ann B. Shortelle, Ph.D., Executive Director

SUBJECT: Federal Energy Regulatory Commission (FERC)
Southeast Market Pipelines (SMP) – Sabal Trail Project

Docket No: PF14-1-000 and PF14-2-000

DATE: April 18, 2014

The Suwannee River Water Management District (SRWMD) has four areas of responsibility under Chapter 373, Florida Statutes: water supply, natural systems, water quality, and flood protection. We have reviewed preliminary draft resource reports related to the Southeast Markets Pipeline (SMP) project, Federal Energy Regulatory Commission – Dockets Nos. PF14-1-000 and PF14-2-000 – Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project (Sabal Trail and Florida Southeast Connection Projects) – From Hamilton to Martin Counties, Florida. According to the route supplied to the SRWMD on April 10, 2014, the proposed pipeline will pass through Hamilton, Suwannee, Gilchrist and Levy Counties which lie within the boundaries of the SRWMD. In addition, representatives from the SMP and the Federal Energy Regulatory Commission met with SRWMD staff on March 24, 2014 to outline the pipeline project, answer questions, and hear any initial concerns or comments regarding the project. We herein offer comments related to the SRWMD areas of responsibility as they relate to the proposed route within the SRWMD.

As noted in the Federal Energy Regulatory Agency's notice of intent document, the items of particular concern include potential impacts on soils, impacts on water resources such as springs, groundwater and wetlands, and impacts on the karst terrain along the proposed pipeline route. This is an extensive project, traversing many geomorphic zones and varying terrains within the SRWMD. The commentary below is based on the pipeline crossing the SRWMD and its potential to affect the SRWMDs four areas of responsibility described above.

Impacts on water resources: The planned trenching for laying pipe may intersect the local water table. Along the proposed route this will likely be the Floridan aquifer system (FAS), based in underlying carbonate bedrock, which is the primary freshwater aquifer in the SRWMD and the state, providing drinking water, agricultural and industrial water, and feeding the springs and river systems located within the SRWMD. The

proposed route passes through known karst regions where the FAS intersects land surface and is therefore vulnerable. In Florida, karst terrain and groundwater vulnerability are directly interrelated. Karst features commonly provide routes of direct surface flow access to the aquifer. Cavernous porosity permits rapid groundwater flow within the aquifer supporting the occurrence of springs and groundwater fed rivers such as the Ichetucknee, Santa Fe and Suwannee Rivers. As such, work in these karst areas will potentially impact local water supplies and the water resources of the region. Installation of the pipeline within karst regions potentially threatens water supplies, water resources and springs of the SRWMD.

Once the pipeline is installed, testing the integrity of it will require the use of large volumes of water which require a Water Use Permit under Chapter 40B-2, Florida Administrative Code. Some consideration of where this water will come from (presumably groundwater) and what will be done with it after it has been used will be necessary. Extracting large volumes of groundwater from near the pipeline can potentially be a trigger for sinkhole activity. Furthermore, once the water has been forced through the pipeline it will have to be disposed of. It could contain small amounts of contaminants picked up while in the pipe. Since the vast majority of the pipeline is currently slated to run through karst terrain, where the underlying aquifer is highly vulnerable to contamination, care needs to be taken when disposing of the test water.

Impact on karst: Most of the pipeline route traverses karst terrain. The route passes through a portion of the Florida Springs Protection Area (Greenhalgh and Baker, 2005) in north and central Florida. A deviation to avoid crossing the Ichetucknee River has been proposed. Additional sensitive river crossings will be through borings under the stream beds. The proposed route crosses the Santa Fe River near the Ichetucknee River and crosses the Suwannee River near the confluence of the Withlacoochee and Suwannee Rivers. Both of these crossings are in known karst regions in areas of numerous documented springs and sinkholes.

In some local areas horizontal drilling near streams and rivers could impact local flow systems. The deeper horizontal drilling required to pass under large rivers like the Suwannee could potentially intercept karst conduits. Some possibility of restriction or redirection of groundwater flow exists. This could affect groundwater flow to local springs and impact Minimum Flows and Levels (MFLs). The SRWMD is required by Chapter 373, Florida Statutes to develop MFLs for priority water bodies and springs within its borders. Damage to the conduit system that feeds these spring systems could directly impact the MFL for a priority spring by potentially reducing the flow to the spring causing a violation of the MFL. It is anticipated that evaluation of the final pipeline route will be thoroughly evaluated in light of the sensitive groundwater and spring systems located within the SRWMD. Such situations might not be avoided with pre-excavation geotechnical testing because the locations of these features are not predictable. Therefore the pipeline route should be altered to avoid karst areas, conduit and spring-flow areas of the SRWMD.

Additional items of concern in karst terrain include the following:

- Portions of the route may pass through shallow karst with extensively developed cavernous porosity. Shallow caves may be of sufficient size to preclude installing effective support for the pipe.

- Grouting in cavernous porosity zones may be ineffective. Excessive grout pumping may cause localized groundwater contamination if pumped into flow systems.

- Horizontal directional drilling in cavernous karst has potential to trigger sinkhole formation or disruption of natural groundwater flow patterns.

- Paleo-sinkholes in karst terrain may contain significant vertebrate fossil deposits. Fossil discoveries made during trenching should be immediately reported to the Florida Museum of Natural History in Gainesville.

- Blasting is proposed in areas of shallow bedrock to facilitate trench construction. Anecdotal evidence suggests that limestone mine blasting may have caused local sinkhole formation in areas of west-central Florida in the past, but the scale and scope of these effects is not documented.

The SRWMD does not oppose the installation of pipelines that support Florida's economy and recognize that the reviewed documents are preliminary in nature, and much of the geotechnical testing along the surveyed route is yet to be completed. However, based on the information provided to date we recommend that the pipeline route be reconsidered to avoid sensitive karst regions that can have a significant impact on the water resources within the SRWMD. It may be more appropriate to locate the pipeline in area where existing pipelines have been installed or, more appropriately, in areas where the FAS is confined (overlain by thick sands and clays) which would avoid impacts to our water supply and to groundwater fed springs and river systems. The SRWMD looks forward to reviewing the final application documents and lending consultation on the SMP project as required.

References

Greenhalgh, T.H. and Baker, A.E., 2005, Florida Springs Protection Areas: Florida Geological Survey Open File Map Series 96, 1 sheet. http://ufdc.ufl.edu/UF00094761/00001

SE ENVIRONMENTAL GEOLOGY
DENNIS J. PRICE, P.G.
P.O. BOX 45
WHITE SPRINGS, FL 32096
386-884-0039, MOB 362-8189, den1@windstream.net

10/14/2015

Testimony at the Sabal Trails Administrative Hearing on October 19-22

Dennis J. Price, P.G.

Display Maps of the area and route of Pipeline across the Suwannee River State Park in Hamilton County FL.

Discuss specifically the route of the pipeline across the Suwannee River State Park in Hamilton County and generally the karst environment of the Transition Zone between the North Florida Flatwoods and the Coastal LowlandsCoastal Lowlands.

Location of Project

Geomorphology of area in Park

Sinkholes and fracture traces

Hazardous Drilling Conditions and expected disruptions during drilling that may not be able to be overcome.

Karst Environment in Coastal Lowlands.

Dennis J. Price, P.G.

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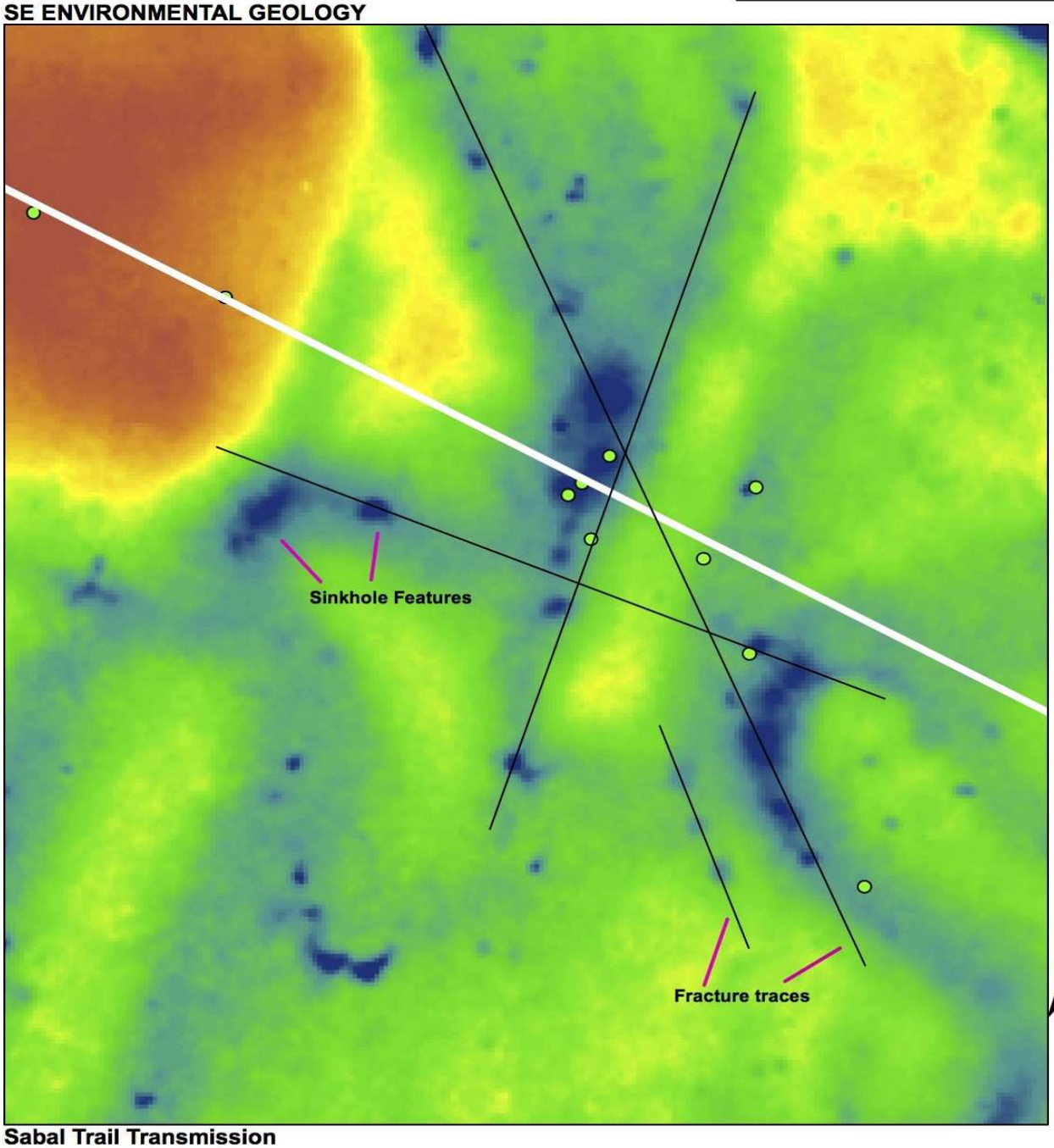
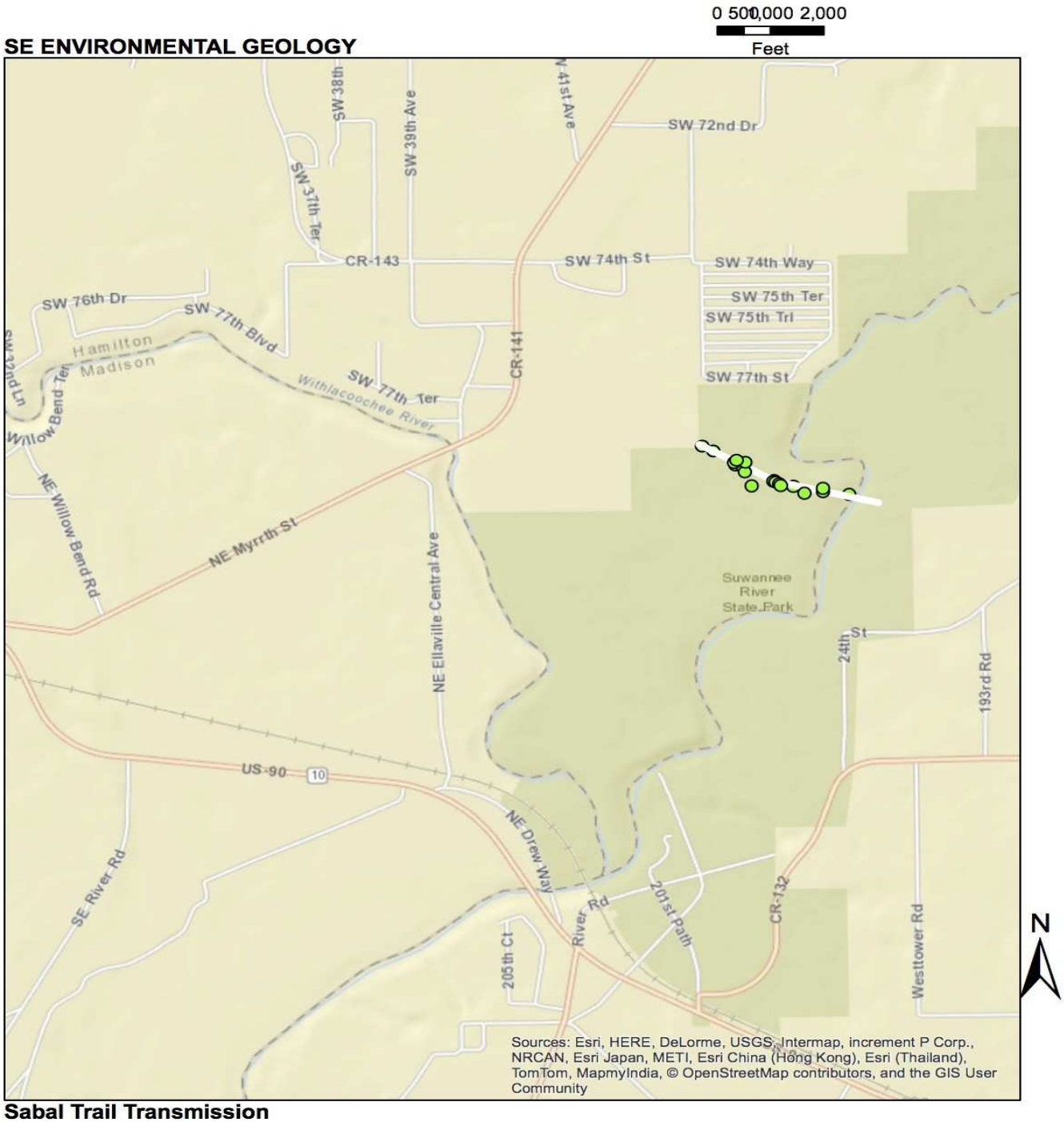
SE ENVIRONMENTAL GEOLOGY



Sabal Trail Transmission
LiDAR Topo
Showing Location of Sinkholes and
Lineations indicating fracture traces in the Limestone

Located Sinkholes

190 95 0 190 Feet



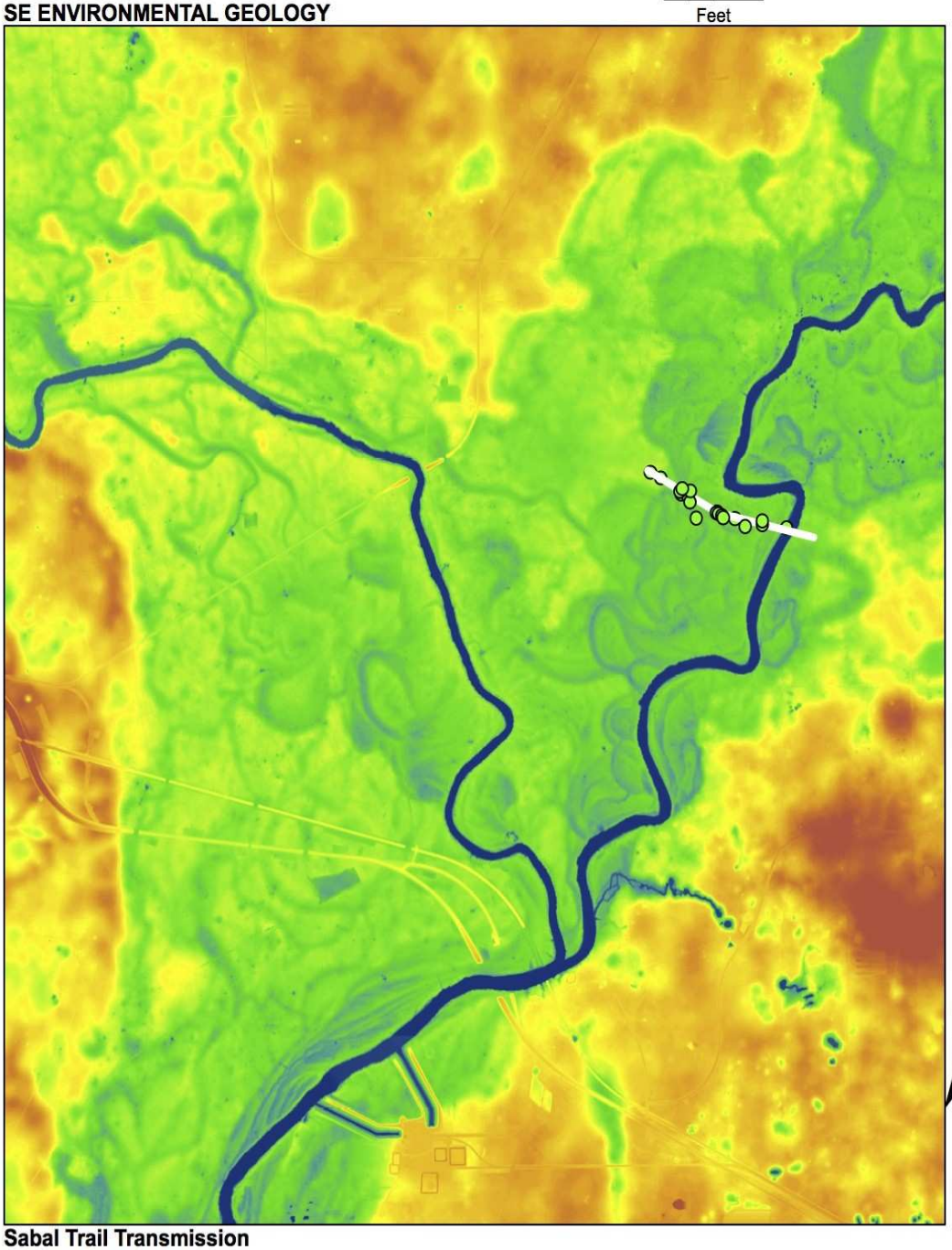
Sabal Trail Transmission
Through Suwannee River State Park
Route and Location of Sinkholes
Location Map

2,900 1,450 0 2,900 Feet

0 500 1,000 2,000

Feet

SE ENVIRONMENTAL GEOLOGY



N

Sabal Trail Transmission
LiDAR Topo
Showing Geomorphology of Region

2,900 1,450 0 2,900 Feet

0 500 1,000

Feet

SE ENVIRONMENTAL GEOLOGY

N

Sabal Trail Transmission, Aerial Photo
Location of Sinkholes and Pipeline Route
Under Suwannee River State Park, Hamilton County FL.

Located Sinkholes

770 385 0 770 Feet

SUWANNEE RIVER STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Recreation and Parks

DECEMBER 5, 2002

Addendum 5—Designated Species List

Rank Explanations
For FNAI Global Rank, FNAI State Rank,
Federal Status And State Status

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment,such as a species,natural community,bird rookery,spring,sinkhole,cave,or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct,self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network,the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors,the most important ones being estimated number of Element occurrences,estimated abundance (number of individuals for species; area for natural communities),range,estimated adequately protected EOs,relative threat of destruction,and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals),and the Florida Department of Agriculture and Consumer Services (plants),respectively.

FNAI GLOBAL RANK DEFINITIONS

G1	=	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	=	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
G4	=	apparently secure globally (may be rare in parts of range)
G5	=	demonstrably secure globally
GH	=	of historical occurrence throughout its range,may be rediscovered (e.g.,ivory-billed woodpecker)
GX	=	believed to be extinct throughout range
GXC	=	extirpated from the wild but still known from captivity or cultivation
G#?	=	tentative rank (e.g.,G2?)
G#G#	=	range of rank; insufficient data to assign specific global rank (e.g.,G2G3)
G#T#	=	rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g.,G3T1)
G#Q	=	rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g.,G2Q)
G#T#Q	=	same as above,but validity as subspecies or variety is questioned.
GU	=	due to lack of information,no rank or range can be assigned (e.g.,GUT2).
G?	=	not yet ranked (temporary)
S1	=	Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2	=	Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4	=	apparently secure in Florida (may be rare in parts of range)
S5	=	demonstrably secure in Florida
SH	=	of historical occurrence throughout its range,may be rediscovered (e.g.,ivory-billed woodpecker)
SX	=	believed to be extinct throughout range
SA	=	accidental in Florida,i.e.,not part of the established biota
SE	=	an exotic species established in Florida may be native elsewhere in North America
SN	=	regularly occurring,but widely and unreliably distributed; sites for conservation hard to determine
SU	=	due to lack of information,no rank or range can be assigned (e.g.,SUT2).
S?	=	not yet ranked (temporary)

Rank Explanations
For FNAI Global Rank, FNAI State Rank,
Federal Status And State Status

LEGAL STATUS

N = Not currently listed,nor currently being considered for listing,by state or federal agencies.

FEDERAL **(Listed by the U. S. Fish and Wildlife Service - USFWS)**

LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT = Proposed for listing as Threatened Species.

C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A) = Endangered due to similarity of appearance.

T(S/A) = Threatened due to similarity of appearance.

STATE

Animals **(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)**

LE = Listed as Endangered Species by the FFWCC. Defined as a species,subspecies,or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state,or which may attain such a status within the immediate future.

LT = Listed as Threatened Species by the FFWCC. Defined as a species,subspecies,or isolated population which is acutely vulnerable to environmental alteration,declining in number at a rapid rate,or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.

LS = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection,recognition,or consideration because it has an inherent significant vulnerability to habitat modification,environmental alteration,human disturbance,or substantial human exploitation which,in the foreseeable future,may result in its becoming a threatened species.

Plants **(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)**

LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state,the survival of which is unlikely if the causes of a decline in the number of plants continue,and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state,but which have not so decreased in such number as to cause them to be endangered.

Suwannee River State Park

Designated Species

Plants

Common Name/ *Scientific Name*	**Designated Species Status** FDA	USFWS	FNAI
Eastern Sweetshrub *Calycanthus floridus*	LE		G5, S2
Green-fly Orchid *Epidendrum conopseum*	CE		
Cinnamon Fern *Osmunda cinnamomea*	CE		
Royal Fern *Osmunda regalis*	CE		
Florida Mountain-mint *Pycnanthemum floridanum*	LT		G3, S3
Cedar Elm *Ulmus crassifolia*			G5, S1
Treat's Rain lily *Zephranthes treatiae*	LT		

Suwannee River State Park

Designated Species

Animals

Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
INVERTEBRATES			
Suwannee Moccasinshell *Medionidus walkeri*			G2, S?
Pallid Cave Crayfish *Procambarus pallidus*			G2G3, S2S3
FISH			
Gulf Sturgeon *Acipenser oxyrinchus desotoi*	LS	LT	G3T2, S2
Bannerfin Shiner *Cyprinella leedsi*			G4, S3
Suwannee Bass *Micropterus notius*	LS		G3, S3
REPTILES			
American Alligator *Alligator mississippiensis*	LS	T(S/A)	G5, S4
Eastern Diamondback Rattlesnake *Crotalus adamanteus*			G5, S3
Timber Rattlesnake *Crotalus horridus*			G5, S3
Eastern Indigo Snake *Drymarchon corais couperi*	LT	LT	G4T3, S3
Gopher Tortoise *Gopherus polyphemus*	LS		G3, S3
Alligator Snapping Turtle *Macroclemys temminckii*	LS		G3G4, S3
Suwannee Cooter *Pseudemys concinna suwanniensis*	LS		G5T3, S3
BIRDS			
Cooper's Hawk *Accipiter cooperii*			G4, S3?
Bachman's Sparrow *Aimophila aestivalis*			G3, S3
Great Egret *Ardea alba*			G5, S4
Little Blue Heron *Egretta caerulea*	LS		G5, S4
White Ibis *Eudocimus albus*	LS		G5, S4
Southeastern Kestrel *Falco sparverius paulus*	LT		G5T3T4, S3?
Black-crowned Night-heron *Nycticorax nycticorax*			G5, S3?
Hairy Woodpecker *Picoides villosus*			G5, S3?

Suwannee River State Park

Designated Species

Animals

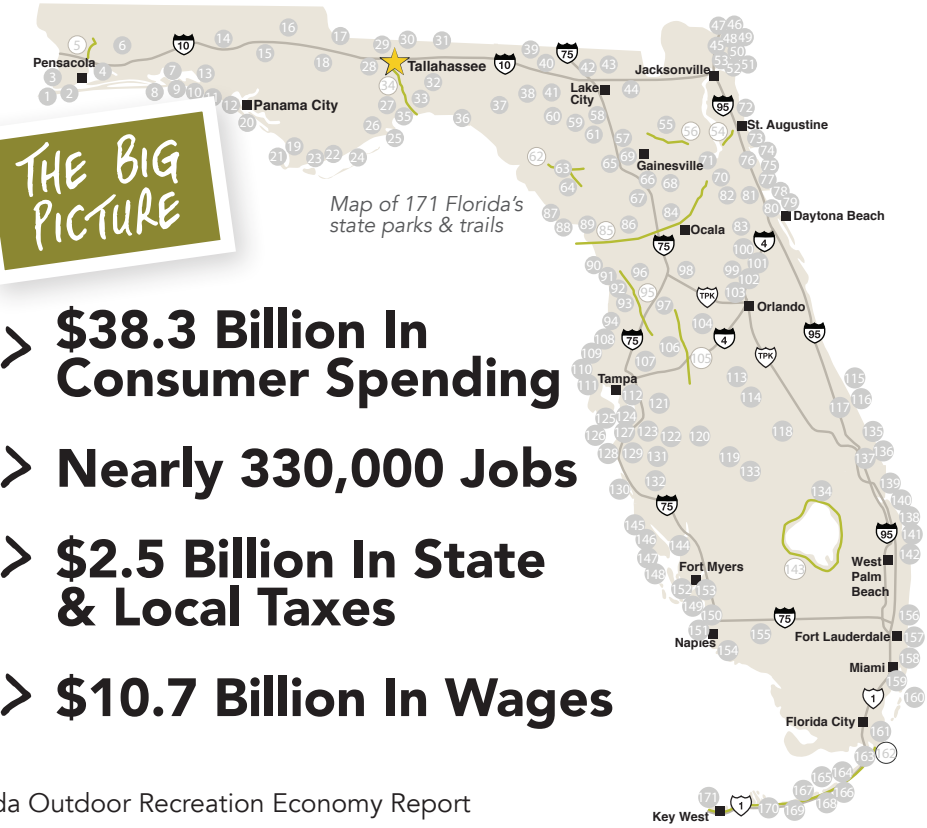
Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
MAMMALS			
Big Brown Bat *Eptesicus fuscus*			G5, S3
Southeastern Bat *Myotis austroriparius*			G4, S3
Sherman's Fox Squirrel *Sciurus niger shermani*	LS		G5T3, S3
Florida Black Bear *Ursus americanus floridanua*	LT	C	G5T2, S2

OUTDOOR RECREATION & TRAILS!

CONNECTING THE DOTS BETWEEN TRAILS & TOURISM

OUTDOOR RECREATION GENERATES BIG ECONOMIC IMPACTS FOR FLORIDA

THE BIG PICTURE



Map of 171 Florida's state parks & trails

- **$38.3 Billion In Consumer Spending**
- **Nearly 330,000 Jobs**
- **$2.5 Billion In State & Local Taxes**
- **$10.7 Billion In Wages**

Recreation has long served as an economic driver in Florida, as the state remains a major destination for national and international tourism.

Outdoor Industries Association, 2012. The Florida Outdoor Recreation Economy Report

FLORIDA STATE PARK VISITATION GENERATES NEARLY $2.1 BILLION ON LOCAL ECONOMIES

With more than **1,600 miles of multi-use trails**, Florida State Parks receive over **27 million visitors annually, creating 29,396 jobs.**

Honeymoon Island State Park had the greatest local economic impact totaling $85.9 million.

Honeymoon Island

x 1,000 VISITORS = ~$86,000[2] DIRECT LOCAL IMPACT

[2]ibid

"The West Orange, Little Econ, and Cady Way trails in Orange County supported 516 jobs and an estimated economic impact of $42.6 million in 2010."

East Central Florida Regional Planning Council (2011)

TRAIL FACTS

- **Every $1 spent on biking trails and walking paths could save approximately $3 in medical expenses (American Heart Association)**
- **Every $1 million spent on trails yields 9.6 jobs (University of Massachusetts, 2011)**

Updated 01/2015

TRAIL FACTS

Trails add value to new homes and consistently remain the number one community amenity sought by prospective homeowners
(National Association of Homebuilders, 2008).

A 2011 study by the University of Cincinnati found that homes within 1000 ft. access to the Little Miami Scenic Trail increased in value by $9K. The scenic, multipurpose trail beckons walkers, hikers, skaters and bicycle enthusiasts and also has horseback riding paths.

WHAT ARE FLORIDA VISITORS & RESIDENTS DOING OUTDOORS?

VIEWING WILDLIFE

The second most popular outdoor activity for both residents and visitors (SCORP 2011) and brings in almost **$5 billion annually** to the state's economy.

Florida's rich diversity of wildlife attracts millions of visitors to public lands such as Florida's 171 State Parks, of which 96 are included as sites on the **Great Florida Birding** and **Wildlife Viewing Trail.**

EQUESTRIAN ACTIVITIES

According to the Florida Department of Agriculture and Consumer Services, the **equestrian industry's economic impact on the gross state product is $6.5 billion.** Florida's State Parks offer 1,889 miles of equestrian trails.

PADDLING

During a year of average river flows, annual park attendance at **Suwannee River State Park** is usually more than 700,000 with **direct economic impact more than $30 millio**n, according to the Florida Park Service.

BIKING

According to the 2013 SCORP, nearly **25 million residents and tourists participate in bicycling in Florida annually**. More than 18.4 million on paved trails and nearly 6.5 million on unpaved trails.

Biking paths are the second most desired facility for Florida residents.

The 2011 Outdoor Recreation Participation study highlights the tight link between recreation and tourism in Florida, determining:

98% of Florida's tourists believe that outdoor recreation is important to them.

97% of tourists are satisfied with outdoor recreation opportunities in the state.

75% (nearly) of all Florida visitors participate in nature-based activities during their visit (Visit Florida, 2012).

Trails boost fitness and well-being, a connection with the outdoors and economic growth.

Visit www.dep.state.fl.us/gwt/ to find trail near you.

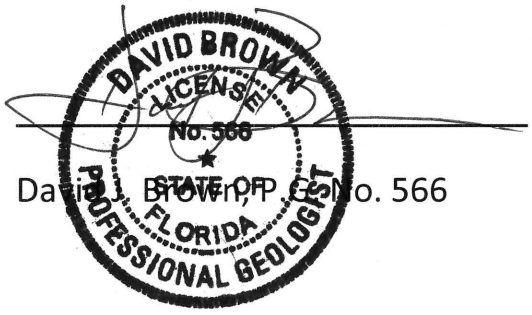
Karst Features and Hydrogeology of the Proposed Sabal Trail Natural Gas Transmission Pipeline Withlacoochee River Crossing - Hamilton County, Florida

August 2014

Karst Features and Hydrogeology of the Proposed
Sabal Trail Natural Gas Transmission Pipeline
Withlacoochee River Crossing - Hamilton County, Florida

This report is respectfully provided to help inform the Federal Energy Regulatory Commission and other interested parties in their assessment and understanding of the potential risks to the public's health, safety and welfare; water resources; and the natural environment posed by the Sabal Trail Natural Gas Transmission Pipeline crossing of the Withlacoochee River in Hamilton County, Florida.

The findings included herein are presented on behalf of concerned landowners and are based upon sound geologic principals and hydrogeologic data available at the time the analysis was performed. The information presented is considered to be accurate and is based upon the interpretations of David J. Brown, P.G. a State of Florida Registered Professional Geologist, and is certified pursuant to Chapter 492, Florida Statutes, (FS) and Chapter 61G16, Florida Administrative Code, F.A.C.



David J. Brown, P.G. No. 566

Cover photograph: Rabbit Hole Spring (Vent No. 1) located within the Withlacoochee River channel in the vicinity of the proposed pipeline corridor taken June 28, 2014.

that cavernous voids extend to depths in excess of 200 ft bls. Over the lifetime of the pipeline, these cavernous voids could result in future sinkhole development potentially causing a catastrophic pipeline failure.

A review of the ASTM *Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacles, Including River Crossings* (F1962-11) indicates that such crossings are major events and require extensive and thorough surface and subsurface investigations including bottom contours of the river to characterize stability and suitability for the design life of the pipeline. Such investigations are also recommended to extend both upstream and downstream of the proposed crossing to better understand the geologic setting. According to the ASTM standard, the overall technical and economic feasibility of a HDD project is dependent upon the nature of sediments at the crossing site and is a major factor in the consideration of such a crossing.

The ASTM guide goes on to state that in cases where substantial problems may occur, including areas with transitions from non-lithified material or cavities into rock (i.e. limestone), an alternative drilling location should be chosen. Given the high number of karst features, caverns, fracture systems and the difficulties reported to be experienced by test drilling, it is imperative that an alternate location be identified since the proposed site fails on all aspects of sound geologic principles.

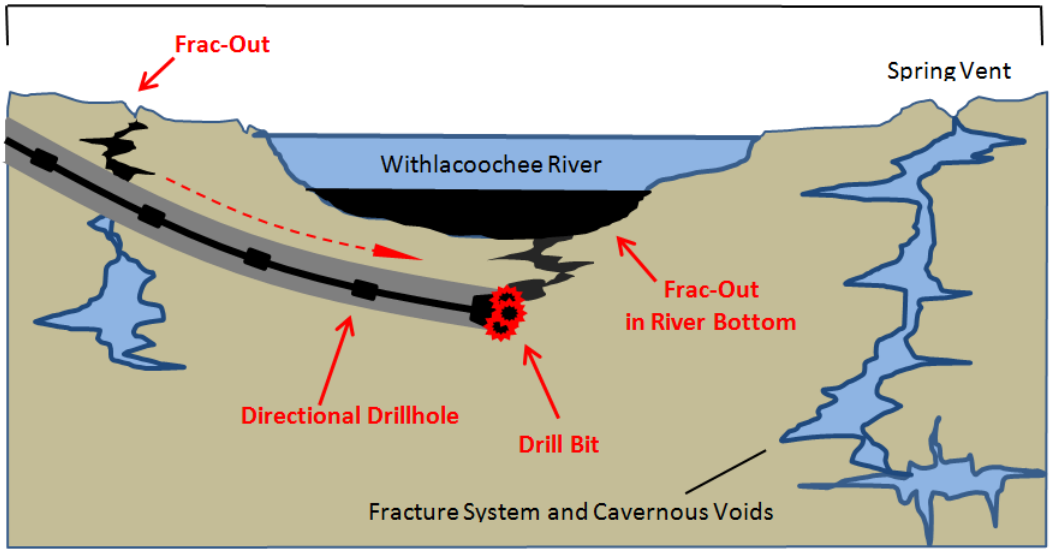
(Left) Track-mounted drill rig performing geotechnical drilling north of the Withlacoochee River. (Right) A second exploratory drill hole being performed along the HDD alignment, north of the Withlacoochee River.

Conclusions and Recommendations

The Sabal Trail transmission pipeline is proposed to be installed in an area that is clearly unsuitable and incompatible. The crossing site is highly karstic and is characterized by active sinkholes, spring vents, cave systems, siphons, swallets, estavelles, and karst valleys. These features are clear evidence of the exceptionally altered and weathered nature of the site and are indicative of the active and continuous dissolution of the Suwannee Limestone and subsequent formation and enlargement of sinkholes. Construction and operation of a natural gas pipeline in this area introduces a much greater likelihood of failure and a significant potential to

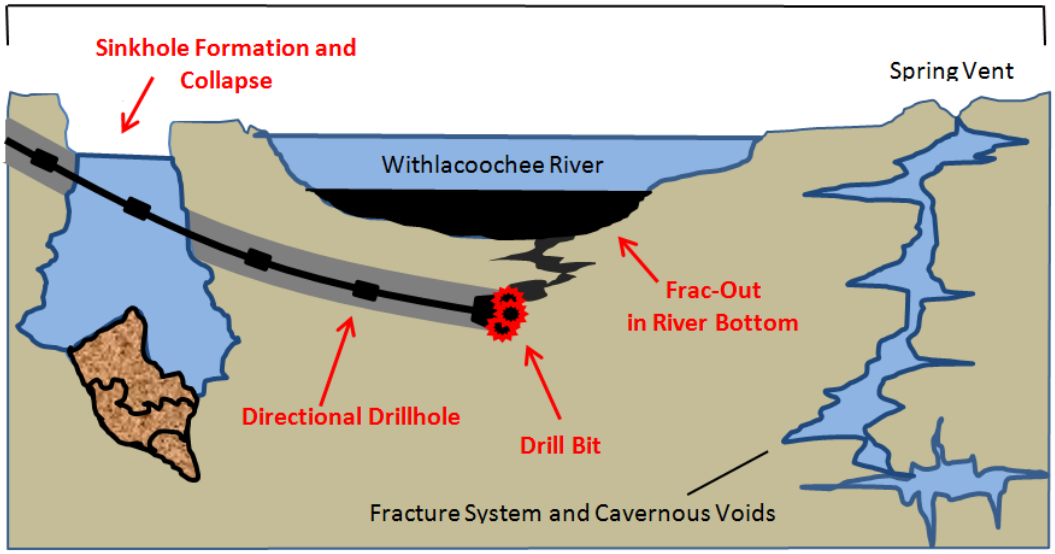
cause ground and surface water contamination, alter natural flow regimes, and cause adverse impacts to existing legal water users, natural systems and the environment.

Approximately 2,500 Lineal Feet Horizontal Directional Drill Hole



Schematic showing cross-section of the proposed HDD crossing of the Withlacoochee River and hypothetical karst features that could result in a hydrofracture (frac-out), significant loss in drilling fluid and potential loss of the borehole.

Sinkhole Formation and Collapse



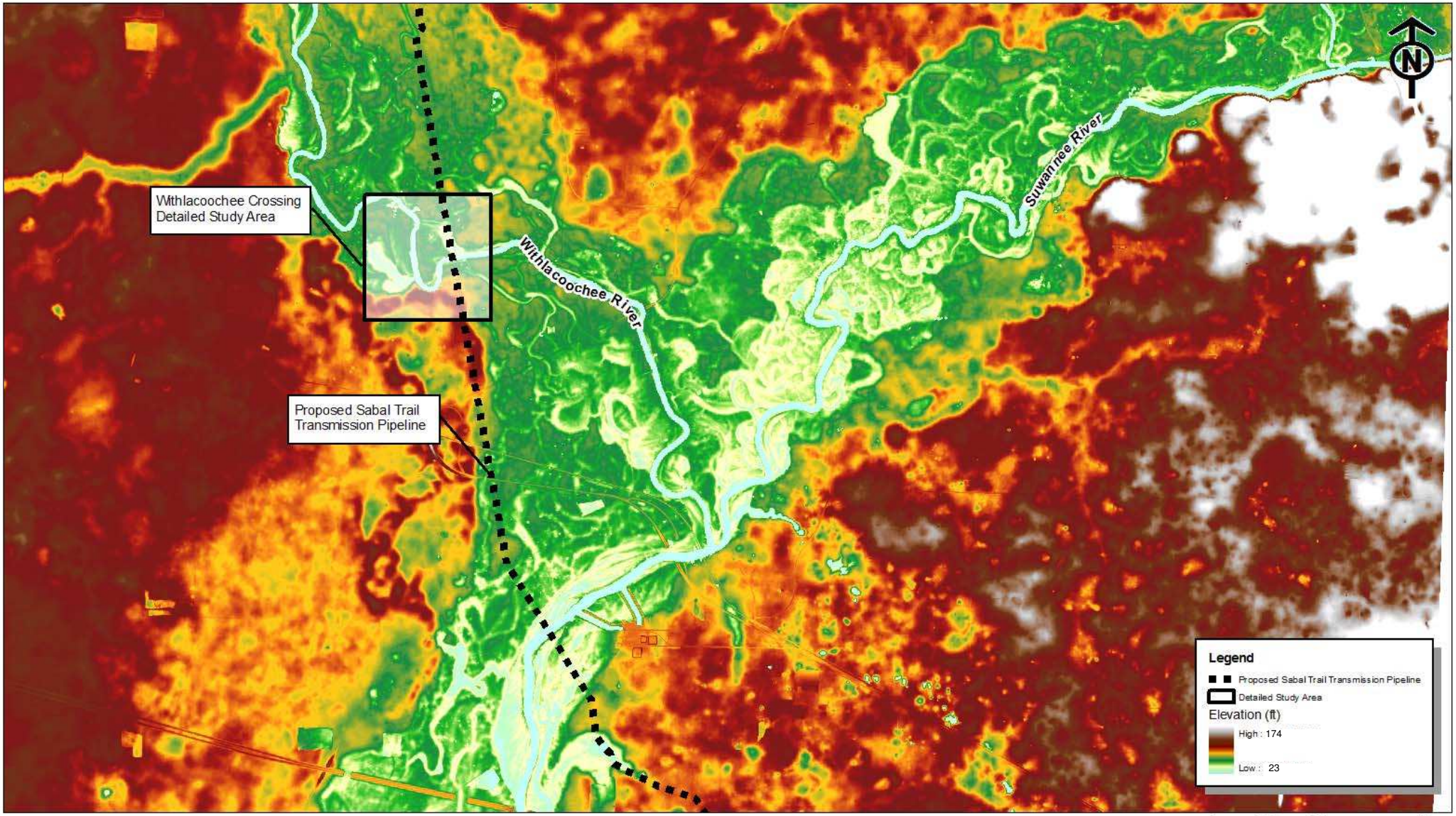
Schematic showing potential sinkhole or collapse feature forming as a result of the proposed HDD crossing of the Withlacoochee River. A collapse, such as that shown, would result in the loss of the HDD borehole, drilling fluids and result in adverse impacts to environmental features and the water resources.

The directional drilling techniques used to install the transmission pipeline under the river channel will transect the highly weathered limestone and potentially short-circuit the preferential flow paths and fracture systems as depicted in the schematics provided above. The disruptive nature of the drilling and reaming processes will have a high probability of creating hydrofractures, sinkholes, or possibly swallets during construction and may also activate the raveling of overlying sediments resulting in subsequent sinkhole development after completion of drilling activities. The destruction of preferential flow paths along existing fracture and cave systems could adversely affect the local groundwater gradient and reduce or eliminate groundwater flow to several springs that provide critical baseflow to the Withlacoochee River.

As shown on **Figure 6**, the Suwannee River and Withlacoochee River confluence regional topography is an extremely complex karstic terrain with a highly "pock-marked" land surface indicating a very high frequency of sinkhole occurrence and activity. A review of this LIDAR image clearly portrays the complex hydrogeology of both the study area and the surrounding region.

It is vitally important that technical decisions regarding the placement and construction of the Sabal Trail underground transmission pipeline be based on site-specific hydrogeologic information and be sensitive to the potential for adverse impacts. It is the author's belief that a comprehensive due diligence assessment of the proposed pipeline crossing site demonstrates that the site does not meet these requirements, presents significant potential for structural failure and adverse impacts. As such, the site should be abandoned from further consideration in order to safeguard the public, the natural environment, and the owner/operator.

Given the highly unstable nature of the Withlacoochee River crossing, attempts to directionally drill and operate the pipeline could have disastrous consequences and in turn potentially jeopardizing the public's support for development of natural gas as an alternate energy resource for the State of Florida.

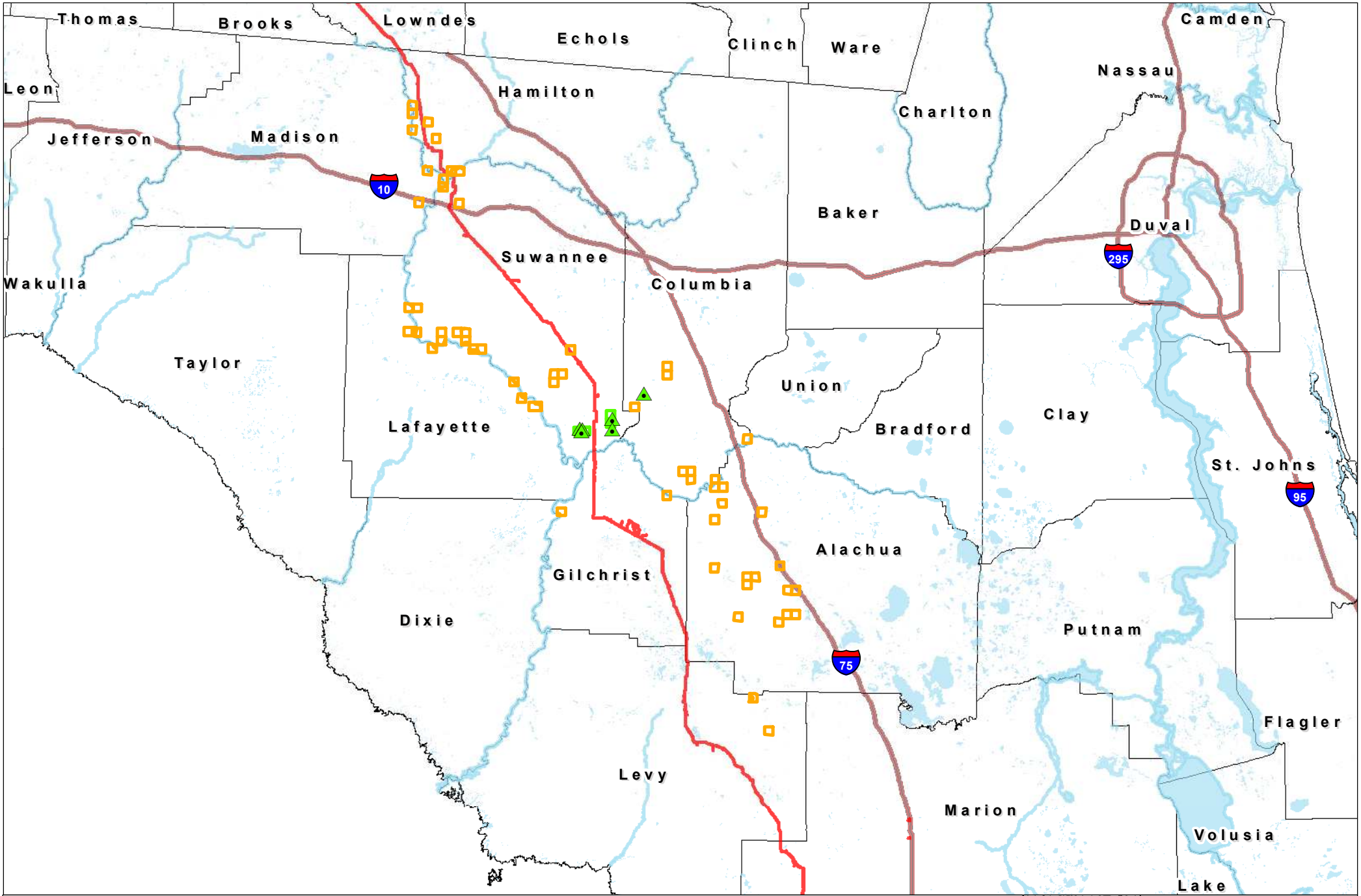


Scale: 1:40,000 8/8/2014 Image: SRWMD LIDAR 0 0.375 0.75 1.5 Miles

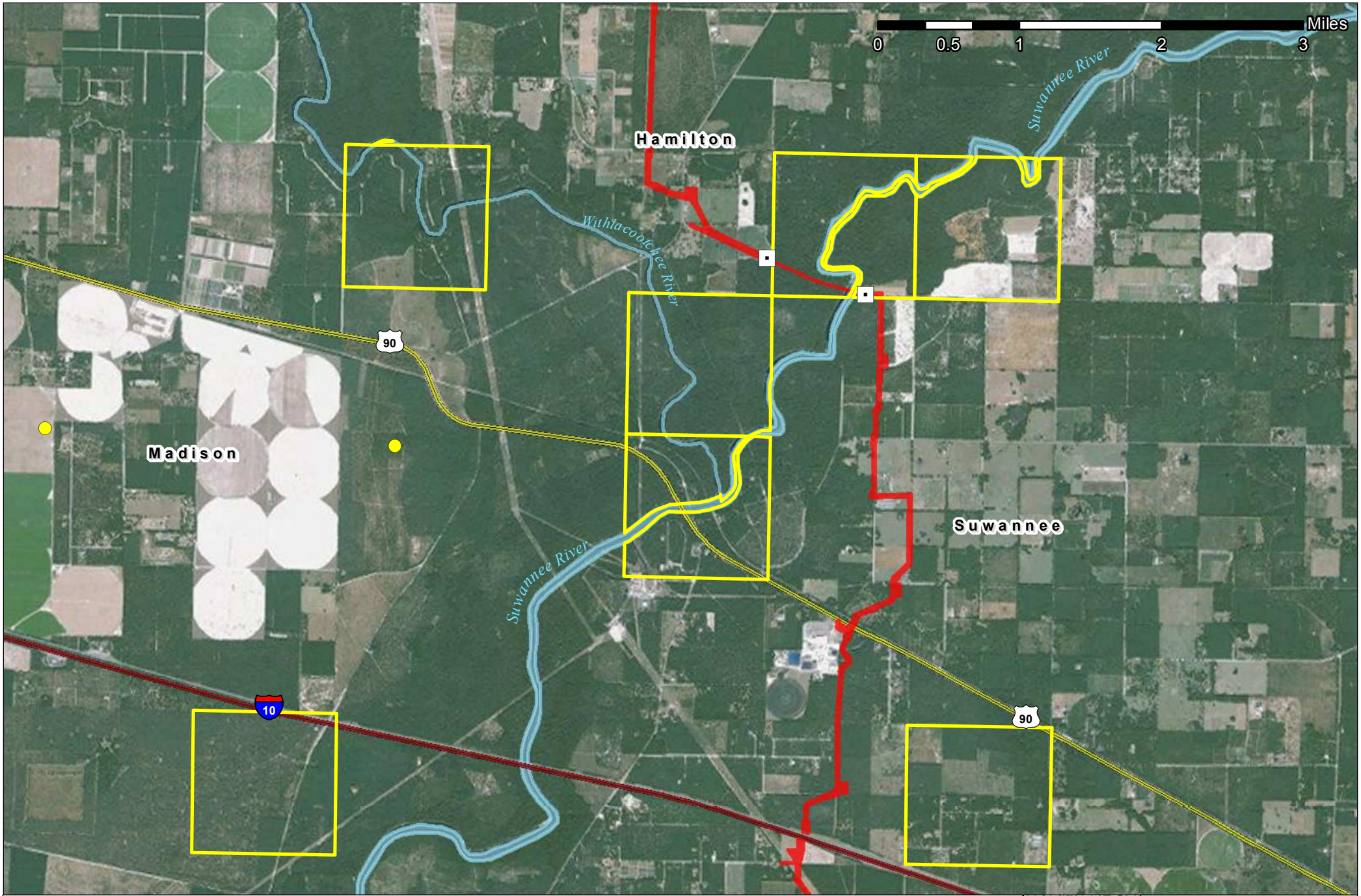
Progressive Water Resources has provided the images or data presented in this map for informational purposes only. This data is not intended to be used in lieu of official survey data provided by a Professional Surveyor licensed by the State of Florida

Figure 6
Suwannee River & Withlacoochee River Confluence Regional Topography

Progressive Water Resources
Integrated Water Resource Consultants



SABAL TRAIL EXHIBIT FOR IDENTIFICATION 53 - 1


Miles
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Hamilton
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Madison
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HDD Locations
Santa Fe Cave Crayfish Documented Occurences
Pallid Cave Crayfish Distributions
Pallid Cave Crayfish
Santa Fe Cave Crayfish
Workspace
County Boundaries
N
W
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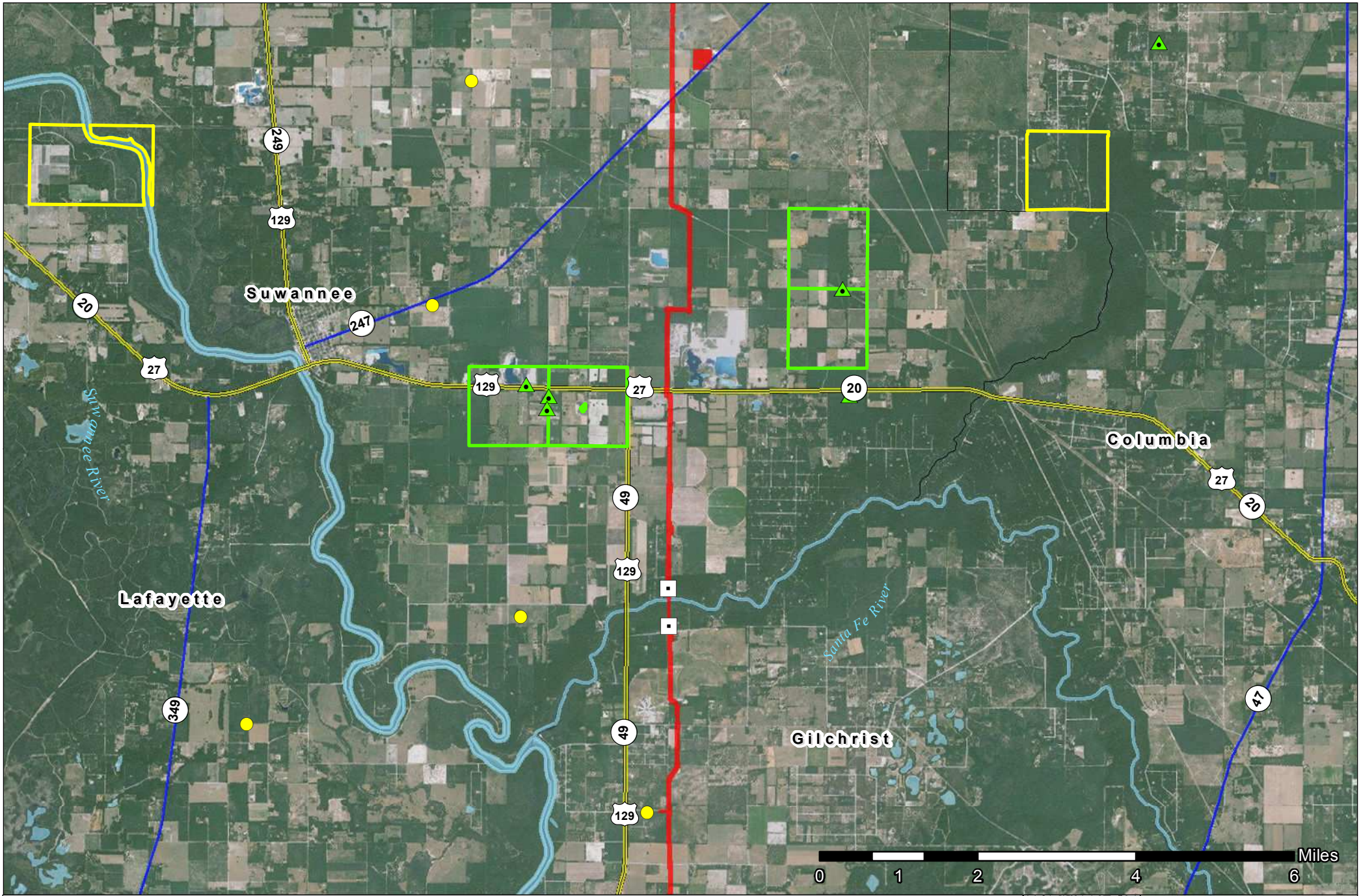
1 inch = 1 miles
Georgia
Map Location
Sabal Trail
TRANSMISSION
SUWANNEE HDD LOCATION
SEPTEMBER 2015
Prepared by:


Suwannee
Columbia
Lafayette
Gilchrist
Suwannee River
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Miles
HDD Locations
Santa Fe Cave Crayfish Documented Occurences
Pallid Cave Crayfish Distributions
Pallid Cave Crayfish
Santa Fe Cave Crayfish
Workspace
County Boundaries
N
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1 inch = 2 miles
Georgia
Map Location
Sabal Trail
TRANSMISSION
SANTA FE HDD LOCATION
SEPTEMBER 2015
Prepared by:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

October 26, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

SUBJECT: Draft Environmental Impact Statement for the Proposed Southeast Market Pipelines Project, FERC Docket Numbers: CP14-554-000, CP15-16-000, and CP15-17-000; ERP No. FRC-E03020-FL-AL-GA; CEQ No. 20150256

Dear Ms. Bose:

The United States Environmental Protection Agency (EPA) has completed its review of the subject Draft Environmental Impact Statement (DEIS) pursuant to the Clean Air Act Section 309 and the National Environmental Policy Act (NEPA) Section 102(2)(C) requirements. The Federal Energy Regulatory Commission (FERC) proposes to license the construction of a total of 685 miles of natural gas transmission pipelines and associated facilities consisting of three separate pipeline projects (i.e., Transco's Hillabee Expansion Project, Sabal Trail and the Florida Southeast Connection). The Sabal Trail project is approximately 515 miles of new pipeline and easements from central Alabama through southwest Georgia to Osceola County, Florida. The proposed pipeline is expected to have potentially significant environmental issues related to drinking water supplies (Floridian aquifer), sensitive geologic formations (Karst), wetlands, conservation areas, environmental justice (EJ) communities, and air quality and greenhouse gas (GHG) emissions. The proposed Sabal Trail project alone will provide up to 1.1 billion cubic feet per day of natural gas to central and northern Florida.

The EPA has consistently expressed concerns over the preferred route through the States of Georgia and Florida to both the FERC and its applicant throughout the FERC's NEPA scoping process. The FERC's environmental analysis in the DEIS is primarily focused on identifying and mitigating impacts to the proposed action associated with proposed project and not avoiding and minimizing impacts to environmentally sensitive areas. The EPA has attached detailed review comments to this letter for the FERC's consideration (See attachment).

The EPA has very significant concerns over the FERC's process and full and objective compliance with the NEPA regulations at 40 CFR Part 1500. The FERC's consultations with the Florida and Georgia Geological Societies, Suwannee River Water Management District, Florida Department of Environmental Protection (FDEP), and the EPA occurred after the FERC accepted the applicant's 2014 application and after it approved the applicant's 2013 request to initiate the FERC's NEPA pre-filing process. Both the application and the pre-filing request contained the applicant's preferred route which became the FERC's preferred route as identified in the DEIS. The FERC/applicant's preferred route is the subject of an enforceable contract between the applicant and Florida Power and Light (FPL) that was signed on June 26, 2013. The

FERC's preferred route is also the subject of FPL's December of 2012 request for proposals. Moreover, the applicant has indicated that the route's alternative analyses is severely constrained by precedent agreements with its main client. From the EPA's understanding, the applicant will potentially suffer 'monetary damages' if it cannot meet its pre-committed contractual deadlines. The EPA believes that these pre-conditions may have affected the FERC's ability to rigorously explore other potentially more environmentally-sound alternatives for portions of the proposed pipeline route.

Based upon the EPA's calculations from different tables and sections of the DEIS, it is projected that the proposed pipelines will directly impact a total of 1,255.1 acres of jurisdictional wetlands covering three (3) U.S. Army Corps of Engineers (ACE) Districts (i.e. Mobile, Jacksonville and Savannah). The DEIS does not fully identify avoidance and minimization measures for the preferred alternative's jurisdictional impacts as required by the Clean Water Act Section 404(b)(1) Guidelines. Furthermore, the FERC's compensatory mitigation plan for unavoidable impacts to jurisdictional waters of the U.S. has not been finalized and the draft mitigation plan was not included in the DEIS.

The proposed project will also directly impact 177.8 acres of numerous conservation areas, including the Green Swamp in Florida. The EPA has substantial environmental concerns with these dedicated conservation areas being permanently converted to a pipeline easement. From the DEIS it appears that it is the FERC's and applicant's intent to let these conservation areas naturalize to pre-construction conditions and that this land use conversion will not be a significant long-term environmental issue. From past experiences with utility easements and required maintenance and access, the EPA does not believe that this proposition is accurate and that there will also be potential long-term impacts to natural resources including water quality and aquatic resources in and adjacent to the easements.

The proposed pipeline is expected by the EPA to have significant impacts to karst areas in the State of Georgia and Florida and represents a potential threat to groundwater (and surface waters) resources. The EPA is requesting that the FERC develop an alternative route to avoid impacts to the Floridan Aquifer and its sensitive and vulnerable karst terrain. The EPA has recently received an emergency petition[1] to designate the entire Floridan Aquifer System as a sole source aquifer pursuant to §1424(e) the Federal Safe Drinking Water Act. This designation is for areas that may have no alternative drinking water source physically and economically available to supply all who depend on the aquifer for drinking water. Moreover, the Florida Geological Survey has delineated a 32-county Springs Protection Area to protect the sole source of drinking water and the source of spring discharge, groundwater from the Floridan Aquifer.

The DEIS did not fully address the December of 2014's *Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts* issued by the President's Council on Environmental Quality (CEQ). As described in the guidance, "*Unlike the 2010 draft guidance, the revised draft guidance applies to* ***all*** *proposed Federal agency actions*". The FERC should comply with the guidance and fully address the requirements in either a supplemental or final NEPA document. The EPA generally supports alternative, cleaner fossil fuels such as natural gas to replace coal-fired and oil-fired power plants. However, considering the potential magnitude of the proposed

[1] April 28, 2015, emergency petition submitted by the Sierra Club Florida Chapter to the EPA.

project and its resulting greenhouse gas (GHG) emissions, the EPA is requesting that a full life cycle analysis (LCA) be conducted for the proposed pipeline project.

The EPA has rated the DEIS's preferred alternative as 'EO-2', meaning that we have 'environmental objections' to a significant portion of the proposed pipeline route due to the magnitude of the impacts to jurisdictional wetlands and that we are requesting additional information that was not included. As currently proposed in the DEIS, the preferred alternative has the potential to violate the Section 404 requirements of the Clean Water Act. Appropriate and required avoidance and minimization measures to jurisdictional resources have not been documented and the plans to provide compensatory mitigation for unavoidable impacts were not disclosed in the DEIS. Furthermore, the proposed action has the potential to effect the designation of the Floridan Aquifer as a sole source aquifer under the Safe Drinking Water Act. The EPA has substantial environmental concerns that local community water supplies could be adversely impacted in the future. Additional clarification is also being requested for potential impacts to environmental justice (EJ) communities. The analysis performed in the DEIS does not fully inform the public as to the potential direct or indirect impacts to EJ communities resulting from the proposed action.

The EPA has attached its specific recommendations for the FERC's further consideration. The EPA recommends that the FERC re-evaluate its environmental alternatives analysis for routes that avoid environmentally sensitive areas including jurisdictional wetlands, conservation areas, EJ communities and sensitive karst terrain areas prior to proceeding with a final EIS (FEIS). As previously noted, the EPA also requests that the FERC fully investigate compliance with CEQ's guidance on GHG emissions and climate change. For questions regarding EPA's review of the DEIS and the attached detailed comments, please contact Ms. Beth Walls of my staff at walls.beth@epa.gov or 404-562-8309.

Sincerely,

Christopher A. Militscher
Chief, NEPA Program Office
Resource Conservation and Restoration Division

Attachment: EPA's detailed comments

Cc: Karin Leff, Acting Director, NEPA Compliance Division, EPA HQ
Tony Able, Chief, Wetlands Streams Regulatory Section, EPA R4
Fred McManus, Chief, Ground Water and UIC Section, EPA R4
Philip Mancusi-Ungaro, Office of Regional Counsel, EPA R4

Arkansas Blog

Arkansas River pipeline blowout occurred on Sunday morning, cause still unknown

Posted By Benjamin Hardy on Wed, Jun 3, 2015 at 2:12 PM

TONY CASSADY

BIG DISTURBANCE: This picture, taken at 9:40 a.m. Sunday morning, corresponds to the location of the ruptured pipeline.

Based on eyewitness accounts, it appears **the rupture of the auxiliary Texas Eastern Pipeline** used to transport natural gas across the Arkansas River occurred around 9:40 a.m. on the morning of Sunday, May 31. However, neither the owner of the pipeline — Houston-based **Spectra Energy** — nor the **U.S. Coast Guard** became aware of the incident until sometime Monday, June 1, when **Jeffrey Sand Company** in North Little Rock called the energy company to complain about damage to a towboat it owns, the Chris M.

Clay McGeorge, president of Jeffrey Sand, wrote the *Times* today to say the Chris M. was tied up all day Sunday. "It was fine at the morning watch and damaged at the afternoon watch. No one was present at the time of the rupture," he said in an email.

Mike Metzler is a captain and general manager for Harbor Services, which contracts with the **Little Rock Port Authority** to handle barge traffic out of the port. Metzler said he received a panicked call from a boat captain at 9:40 a.m. on Sunday who said another boat had just reported a "huge wall of water" on the Arkansas River near the Clinton Center. The river has been near minor flood stage in recent days due to weeks of heavy rain.

"The captain [who] actually saw something said he didn't know what it was. At first he thought the dam had broke. From where he was, about two miles [downstream], he no longer could see the bridges. He was terrified — just trying to make sense of what his eyes were seeing. He called us and said that this big wave of water was coming and we were all going to get washed away," Metzler said.

Then within a couple minutes, the turbulence dissipated and disappeared. Metzler said he drove down to the river that afternoon, but to his puzzlement could find nothing amiss. He and others talked about contacting the Coast Guard, he said, but decided against it because "we didn't know what to tell them. Something had happened, but nobody knew what."

They considered the possibility of a pipeline breach, but that made little sense at first: "There was no oil pollution, and we didn't see any bubbles." (We now know that no gas continued to bubble from the line because it wasn't in use at the time of the accident: Spectra said yesterday that the

line was an auxiliary portion of pipe that is isolated from its main pipeline by cutoff valves.)

Then, around 6 p.m. on Sunday, Metzler received a call from the towboat operator at Jeffrey Sand. "He was all pissed off because he said some boat had ran over his boat and tore it all to hell ... He said, 'they dumped a whole bunch of concrete on it.' " But due to the unsafe conditions of the river, there had been no barges or large boats operating in the area.

Metzler said there was concrete scattered across the deck of the Chris M, skid marks across the boat's surface, and handrails and an exhaust stack knocked over. "The concrete still had the form of a pipe," he said, and parts of it were "covered in soot — I decided this thing must have been on fire." He is convinced the Texas Eastern exploded. "I believe a big piece of pipe blew out of the river and flew through the air," he said.

Phil West, a spokesman for Spectra, said the company is still investigating the cause of the event, and can't yet speculate on what may have happened. He did confirm that the Chris M. was not operating at the time it was damaged.

West said the company became aware of the incident on Monday. "[The operator of the Chris M.] called us, because they knew that our line runs through the area.". Spectra has not yet officially determined when the rupture occurred, but West said, "we believe it occurred on Sunday, possibly Monday morning ... we will narrow that window down for sure." On Wednesday, the company was scanning the river with sonar, but crews were still unable to dive into the water due to the current.

Yesterday, a spokesman for the U.S. Coast Guard out of Memphis said that they were notified of the rupture at 2 p.m. on Monday — again, more than 24 hours after the incident evidently occurred.

Tony Cassady, a blog reader, sent in a picture he snapped with his phone on Sunday morning around 9:40 a.m. from his condo in the River Market Tower. He said he first heard "a loud roar that sounded sort of like a jet taking off," and looked out the window.

"My first reaction was 'oh my god, a plane has crashed into the river,' " Cassady said, before quickly realizing the water was being disturbed by something beneath the water. He said he saw "two huge water spouts gushing from the river just beyond the Clinton library ... As quickly as I could grab my phone and step out onto my balcony, I took a couple of pictures but by then the spouts had diminished somewhat."

He said he estimated the water had been bubbling for "a good 30 to 60 seconds" by the time he managed to snap the shot above, and the plumes of water were initially much higher. After another 60 seconds or so, he said the river "had pretty much died down."

"Looking back, I wish I had thought to call 911," he said. "I thought somebody at the Clinton Library would have seen it, but maybe not. When it died down so quickly, I assumed someone was taking care of it, but I should have called someone just to be sure. It really piqued my curiosity."

Here's a map showing the path of the Texas Eastern and other Spectra lines.

Tags: Texas Eastern, Spectra Energy, Mike Metzler, pipeline, Arkansas River, Tony Cassady, Jeffrey Sand Company, Image

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Great scoop, Max! That photo is spectacular! Mr. Cassady needs to copyright it.

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Posted by **Claude Bahls** on 06/03/2015 at 3:08 PM

Helluva photo grab Tony Cassady. Quick thinking.

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Posted by **eLwood** on 06/03/2015 at 3:11 PM

If you ever have a major disaster, don't count on the Red Cross.

"The group has publicly celebrated its work. But in fact, the Red Cross has repeatedly failed on the ground in Haiti. Confidential memos, emails from worried top officers, and accounts of a dozen frustrated and disappointed insiders show the charity has broken promises, squandered donations, and made dubious claims of success.

"The Red Cross says it has provided homes to more than 130,000 people. But the actual number of permanent homes the group has built in all of Haiti: six."

https://www.propublica.org/article/how-the...

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Posted by **Norma Bates** on 06/03/2015 at 3:26 PM