

FORESTRY WILDLIFE BEST MANAGEMENT PRACTICES SURVEY FOR STATE IMPERILED SPECIES



2017 Implementation Survey Report



Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner

**Results of Florida's
Forestry Wildlife Best Management Practices Survey
for
State Imperiled Species**

Conducted by:

Florida Department of Agriculture and Consumer Services
Florida Forest Service
and the
Florida Fish and Wildlife Conservation Commission

In Cooperation with
Florida Forest Landowners and Forest Land Managers

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or

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INTRODUCTION

In 2013 the forestry Technical Advisory Committee (Appendix 1) began a process to develop Wildlife BMPs (WBMP) using the existing Silviculture BMP Manual as a model document. This effort was initiated in accordance with Section 570.94, F.S., whereby the Florida Department of Agriculture and Consumer Services, Forest Service (FFS) and the Florida Fish and Wildlife Conservation Commission (FWC) recognize that silviculture provides a valuable benefit to the conservation and management of fish and wildlife in the state. Toward that end, the two agencies entered into a memorandum of agreement to develop and adopt (by rule) voluntary best management practices for State Imperiled Species of wildlife.

The ensuing WBMP Manual addresses only 16 state imperiled species in Florida (Appendix 2), and not those federally listed by the U.S. Fish and Wildlife Service. Fish and wildlife species currently on the state imperiled list were evaluated to determine the potential for incidental take to occur during silviculture activities. The purpose of the WBMPs is to serve as an alternative to conventional permitting for incidental take of specific state imperiled species. The WBMPs are practical, easily understood and easily implemented, and are voluntary measures to be implemented at a landowner's discretion, as per Chapter 570.094 F.S. The practices were designed as a separate document from the current silviculture BMPs for protecting water quality, and are not intended as a means of species recovery, expansion or habitat restoration.

Applicants who enroll in the WBMP program via the Notice of Intent (NOI) and implement the practices are not required to obtain a permit authorizing the incidental take of state imperiled species associated with their silviculture operations. For NOI participants, on-site monitoring may be conducted periodically by personnel from both the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Forest Service (FFS), to determine if the WBMPs have been properly implemented. Landowners who do not enroll in the program are at liberty to conduct their forestry operations on a business-as-usual basis.

The WBMP Manual has been developed to enhance silviculture's contribution to the conservation and management of freshwater aquatic life and wildlife in the state, and to provide guidance to landowners and others who choose to implement these important practices. As such, these WBMPs reflect a balance between natural resource conservation and forest resource utilization, and serve to benefit a multitude of species above and beyond the sixteen species addressed in the Manual.

The WBMPs were developed specifically for silviculture, but may have application for other agricultural land uses. However, they are not intended for use during tree removal or land clearing operations associated with development or other non-forestry activities. The practices were designed to minimize potential impacts to State Imperiled Species and their habitat, from silviculture activities - not as a means of species recovery, expansion or habitat restoration. As

such, the practices represent a practical approach for avoiding and minimizing loss of State Imperiled Species.

THE 2017 WBMP SURVEY

For forest landowners who have submitted a WBMP NOI, monitoring may be conducted at any time during or after silviculture operations occur. For this report, the Florida Forest Service (FFS) used the occasion of being on-site for the Water Quality BMP Survey to also evaluate the WBMPs. Where practical and feasible, Florida Fish and Wildlife Commission (FWC) employees were invited to participate in these evaluations.

The purpose of this monitoring was to determine whether or not the WBMPs have been properly implemented, and was conducted only on sites that have been voluntarily enrolled in the Wildlife BMP NOI program. The information from these evaluations will be a starting point for WBMP monitoring, that will continue out into the foreseeable future.

WBMP Implementation

Implementation of forestry WBMPs in Florida is primarily done as a joint effort by the landowner, logger, or land manager. These individuals and entities have been trained during numerous workshops designed to transfer WBMP technology to forest practitioners through such workshops and field demonstrations. The implementation program was initiated in 2015 and is ongoing, with workshops routinely provided upon request or as deemed necessary based on monitoring results. Currently, FFS BMP foresters and FWC biologists have conducted a total of seventy-three workshops, involving over 1,200 participants.

WBMP Survey Procedure

The Florida Forest Service has monitored forestry operations for compliance with silviculture water quality BMPs since 1981 by conducting biennial Surveys. As part of the 2017 water quality BMP Survey, the Florida Forest Service also evaluated implementation of wildlife best management practices (WBMPs) for landowners who have submitted the WBMP Notice of Intent.

Sites for the 2017 BMP Survey were selected by FFS personnel, from fixed-wing aircraft, flying randomly selected township and range lines at altitudes ranging from 1500-1800 feet. This pattern was flown for each county, and sites were subsequently selected based on the same criteria used for the water quality BMP Survey (Appendix 3).

Like the water quality BMP Surveys, the WBMPs were evaluated for compliance where the landowner (private or public) currently has an NOI on file with the FFS and FWC. In addition, the landowner agreed to have their property evaluated for WBMPs.

SURVEY METHODOLOGY

After being selected and verified that the landowner had submitted a WBMP NOI, each site was evaluated for compliance with all applicable WBMPs. The evaluation was conducted in the field by the BMP foresters and where practical an FWC employee. Landowners were contacted prior to visiting each site to secure access and to solicit their participation in the WBMP Survey. As the evaluators examined the site for compliance with water quality BMPs, they also made observations for compliance with WBMPs. An additional form (specific to WBMPs) was used to evaluate WBMPs (Appendix 4).

DISCUSSION OF RESULTS

For the 2017 WBMP Implementation Survey, forty-two sites were evaluated for WBMP implementation. The overall WBMP compliance rate was 100% for all 16 state imperiled species as per the WBMP Manual (Appendix 5). For the 2017 WBMP sites, 19% were located on private non-industrial forest lands, 64% on forest industry lands, and 17% on public lands.

Forestry WBMP Notice of Intent

Both public and private forest landowners can file a WBMP NOI by submitting a two-page form to the Florida Forest Service's Hydrology Section and the Florida Fish and Wildlife Conservation Commission in Tallahassee.

As of January 2018, the FFS has received NOIs that encompass more than 3.3 million acres, ranging from small private non-industrial landowners to large industrial ownerships.

Appendix 1 – 2018 TAC Members

Honorable Adam H. Putnam - Chairman
Commissioner of Agriculture and Consumer Services

Mr. Jim Karels – Vice Chairman
FDACS, Florida Forest Service

Mr. Jeff Vowell
FDACS, Florida Forest Service

Dr. Matt Cohen
University of Florida

Mr. Lee Marchman
Department of Environmental Protection

Dan Pennington
Department of Economic Opportunity

Mr. Steve Miller
St. Johns River Water Management District

Mr. Joe Prenger
U.S. Fish and Wildlife Service

Jorge Guevara
USDA Forest Service

Jennifer Goff
Florida Fish and Wildlife Commission

Mr. Ralph Jowett

FL-Association of Consulting Foresters

Mr. Dan Roach
Rayonier, Inc.

Mr. Mike Branch
Florida Forestry Association

Mr. Mike Gaff
Georgia Pacific

Chris Muckenfuse
Weyerhaeuser Corp

Mr. Travis McCoy
Four Rivers Land and Timber Company

Mr. Jack Vogel
Natural Resource Planning Services, Inc.

Mr. Philip McMillan
Non-industrial Forest Landowner

Ms. Linda Bremer
Sierra Club

Mr. Zachary Prusak
The Nature Conservancy

Mr. George Willson
Tall Timbers Research Station

Mr. Manley Fuller
Florida Wildlife Federation

Jake Cremer
P.A. Stearns & Weaver

Appendix 2 – Florida State Imperiled Species

1. Crystal Darter
2. Harlequin Darter
3. Bluenose Shiner
4. Blackmouth Shiner
5. Tessellated Darter
6. Santa Fe Cave Crayfish
7. Black Creek Crayfish
8. Barbour's Map Turtle
9. Georgia Blind Salamander
10. Florida Bog Frog
11. Gopher Tortoise
12. Burrowing Owl
13. Little Blue Heron
14. Tri-Colored Heron
15. Florida Sandhill Crane
16. Southeastern American Kestrel

Appendix 3 – Florida Silviculture BMP Survey Site Selection Criteria

The BMP Implementation Survey is conducted in all Florida counties where any *bona-fide* Silviculture activity is observed. Each county is assigned a sampling “goal” (number of Survey sites) proportionate to that county’s average annual timber removal, i.e., the more timber removed, the higher the “goal” assigned to the county. In addition, in order to sample as much of the state's geographic area as possible, all counties showing any timber harvest activity, were assigned a goal of at least one site.

Candidate sites for the Survey are selected using the following criteria: (1) the operation being evaluated must be *bona-fide* Silviculture, (2) the Silviculture treatment being evaluated must have occurred within the past 2 years, and (3) some part of the treatment must have occurred within 300 feet of a stream, wetland, sinkhole or lake (2 acres or larger), or within a wetland type listed in the BMP Manual. These criteria provide for Survey sites where the greatest potential for forestry-related non-point source (NPS) pollution exists, and where any such impacts are still discernable and measurable at the time of the Survey.

Sites are selected by FFS personnel from fixed-wing aircraft, flying randomly selected township and range lines at altitudes ranging from 800-1200 feet. This pattern is flown for each county until the established goal is attained, to minimize sample bias and to maximize the diversity of ownerships and physiographic areas within the sample. In areas where aircraft are not available, candidate sites are selected from the ground, assigned a number, and then the numbers are drawn randomly. These sites are then verified, on the ground, to ensure that the site is *bona-fide* silviculture, and that the site meets the qualifying criteria.

Appendix 4 – Florida WBMP Field Evaluation Form

AQUATIC SPECIES				BURROWING ANIMALS & NESTING BIRDS	
Species Name	WBMPs Evaluated	Species Name	WBMPs Evaluated	Species Name	WBMPs Evaluated
Crystal Darter	☐	Santa Fe Crayfish	☐	Gopher Tortoise	☐
Harlequin Darter	☐	Black Creek Crayfish	☐	Burrowing Owl	☐
Bluenose Shiner	☐	Barbour's Map Turtle	☐	Little Blue Heron	☐
Blackmouth Shiner	☐	Georgia Blind Salamander	☐	Tricolored Heron	☐
Tessellated Darter	☐	Florida Bog Frog	☐	Florida Sandhill Crane	☐
				SE American Kestrel	☐

Indicate Species for which Wildlife BMPs have been evaluated by checking boxes below:

Participant is implementing the following WBMP exception(s) for State Imperiled Species of nesting birds:

- ☐ Documented cases where birds have acclimated to disturbances.
- ☐ Where consultation with a FWC biologist provided a functional alternative

AQUATIC SPECIES PROVISIONS	
For all acres enrolled in Wildlife BMPs for Aquatic Species complete or attach one or more of the following as appropriate:	
☐ Section A: Forestry Water Quality Provisions for Wildlife	☐ Section B: Agriculture Water Quality Provisions for Wildlife BMPs
☐ FFS Silviculture BMP Implementation Survey completed within the past 2 years	
☐ FDACS Agriculture BMP Implementation Evaluation Form completed within the past 2 years	

BURROWING ANIMAL PROVISIONS			
Check if Conditions Present:	Were the Corresponding WBMPs Applied?	Yes No	Comments: Explain Below
Concentrated heavy equipment use ☐	Located operations away from known/apparent burrows or if unavoidable, marked burrows & avoided damaging them?	☐ ☐	
Visibly apparent burrows ☐	Avoided direct contact with known/apparent burrows?	☐ ☐	
Individuals observed ☐	Avoided direct contact with known/apparent individuals?	☐ ☐	
Heavy equipment activity May-Sept ☐	Avoided direct contact with GT burrow aprons?	☐ ☐	
Heavy equipment activity Sept-Oct ☐	When practical, minimized equip use for GT hatchlings?	☐ ☐	

NESTING BIRDS PROVISIONS

Check if Conditions Present:	Were the Corresponding WBMPs Applied?	Yes	No	Comments: Explain
Known/visibly apparent Little Blue and Tricolored Heron rookeries ☒	Avoided heavy equipment in 330 ft. buffer from Feb-May?	☐	☐	
Known/visibly apparent Sandhill Crane ☐	Avoided heavy equipment in 400 ft. buffer from Feb-May?	☐	☐	
Known/visibly apparent Kestrel nests ☐	Avoided prolonged heavy equip within 490 ft. March-June?	☐	☐	
Potential Kestrel nesting ☐	Left standing snags where not a safety issue and avoided damaging or felling known nest trees?	☐	☐	

Section A: Forestry Water Quality Provisions for Wildlife BMPs

Are **Forested Wetland Roads and/or Stream Crossings** to be evaluated on this site? Yes ☐ No ☐

➔ If **yes**, did the landowner obtain the proper **permit** for installation? Yes ☐ No ☐ *1 N/A ☐

*1 If the answer to this question is "No", take this opportunity to explain to the landowner that permanent **and** temporary stream/wetland crossings are subject to permitting under the **Environmental Resources Permit Rule (ERP)** administered by the Water Management Districts. Requirements and criteria for crossings may vary between Water Management Districts. Advise the landowner to contact the WMD in his/her area (see **Appendix 13**) for information and/or permit applications prior to future projects involving crossings.

➔ Are all evaluated forestry operations complete? Yes ☐ No ☐

Part III. WATERBODY CHARACTERISTICS*

N/A ☐

Site Sensitivity Class (SSC): _____

20. Name of waterbody, if known: _____

21. If stream, indicate Stream Order (Check one): 1st ☐ 2nd ☐ 3rd ☐ 4th ☐ Higher ☐ Unknown ☐

22. Indicate type & size of waterbody found on this site and its SMZ requirement:

(Refer to pages 7-14 and Appendix 1 of 2008 Forestry BMP Manual)

TYPE OF WATERBODY (Check All That Apply) *		STREAM WIDTH & CLASS (Check All That Apply)						SMZ WIDTH (Feet)				
								REQUIRED		ACTUAL		
		<20'	20-40'	>40'	OFW (2)	ONRW (2)	CLASS I (2)	PRIMARY ZONE	SECONDARY ZONE	PRIMARY ZONE	SECONDARY ZONE	TOTAL SMZ
Perennial Stream	☐	☐	☐	☐	☐	☐						
Perennial Lake (1)	☐					☐	☐					
Perennial Sinkhole	☐					☐	☐					
Intermittent Lake (1)	☐					☐	☐	STRINGER ☐ or 200 ft PZ if OFW ☐		STRINGER ☐ ____ ft PZ (OFW)		
Intermittent Stream	☐					☐	☐	STRINGER ☐ or 200 ft PZ if OFW ☐		STRINGER ☐ ____ ft PZ (OFW)		
Intermittent Sinkhole	☐					☐	☐	STRINGER ☐ or 200 ft PZ if OFW ☐		STRINGER ☐ ____ ft PZ (OFW)		
Measure or estimate total linear water "frontage" under "Primary Zone" treatment: (The Primary SMZ length may be determined using an aerial photo or a "to-scale" map of the treated area.)												

(1) Lakes 2 acres or larger only.

(2) A complete listing of "Special Waters" and OFWs is available from WMD offices or from the Florida Department of Environmental Protection, 2600 Blair Stone Rd., Tallahassee, FL, 32399-2400.

23. Are Primary Zone Exceptions being applied for perennial waterbodies on site? Yes ☐ No ☐

24. Total area designated as "**Primary SMZ**":
(Linear Water Frontage x Primary Zone Width/43,560)

Acres

***NOTE:** Attach an additional copy of Park III and Section A, Part IV of the BMP Survey for each waterbody adjacent to the operation evaluated on this site.

(Part IV: BMP APPLICATIONS)

A. SPECIAL MANAGEMENT ZONES (SMZs)* ☐ N/A <i>(Refer to pages 3-14 of 2008 BMP Manual) (If N/A, check box and move on to NEXT CATEGORY)</i>				
*NOTE: Attach additional copies of Part III & Section A of Part IV of the BMP Survey for each waterbody evaluated on this site.				
PRIMARY ZONE (Applies to Perennial Streams, Lakes, and Sinkholes) (If N/A, Check N/A box and move on to the NEXT PRACTICE)	IN COMPLIANCE? (Check One)			Significant Risk
	N/A	Y	N	
1. Width of the Primary Zone meets the minimum required for waterbody size & type?	☐	☐	☐	☐
WAS TIMBER HARVESTING CONDUCTED <u>WITHIN</u> THE PRIMARY ZONE? (If "No" Skip Questions 2-6) ☐ YES ☐ NO				
2. Timber harvesting limited to selective cutting only? (N/A if clearcut exception applied).	☐	☐	☐	☐
3. Selective harvesting maintained at least 50% of the fully stocked stand?	☐	☐	☐	☐
4. Residual stand "mirrored" previous stand or was at least 10% pine?	☐	☐	☐	☐
5. Avoided re-entering a previously harvested Primary Zone to conduct additional harvesting?	☐	☐	☐	☐
6. Left all trees uncut in stream channel and on immediate stream banks?	☐	☐	☐	☐
7. Kept mechanical site preparation out of the Primary Zone?	☐	☐	☐	☐
8. Limited pesticide application within Primary Zone to approved methods?	☐	☐	☐	☐
9. Limited fertilizer application within Primary Zone to approved methods?	☐	☐	☐	☐
10. Kept log loading decks, landings, and log bunching points out of the Primary Zone?	☐	☐	☐	☐
11. Avoided new road construction within the Primary Zone, except for designated stream crossings?	☐	☐	☐	☐
12. Restricted site preparation burns to slopes with <18%?	☐	☐	☐	☐
13. Kept main skid trails out of Primary Zone, except for designated stream crossings?	☐	☐	☐	☐
14. Kept pre-suppression plowed firelines out of the Primary Zone?	☐	☐	☐	☐
15. Located fertilizer transfer/loading areas outside of the Primary Zone?	☐	☐	☐	☐
16. Cleaned spray equipment from pesticide and fertilizer applications outside of Primary Zone?	☐	☐	☐	☐
SUBTOTALS (Enter on top of table on next page)				

Section A: Forestry Water Quality Provisions for Wildlife BMPs

A. SPECIAL MANAGEMENT ZONES (SMZs) - CONTINUED <i>(Refer to pages 3-14 of 2008 BMP Manual)</i>							
ENTER SUBTOTALS FROM PREVIOUS PAGE							
PRIMARY ZONE EXCEPTIONS <i>Refer to Appendix 11, pages 105-107 of the 2008 Forestry BMP Manual for explanation of Exceptions</i> (If N/A, Check N/A box and move on to the NEXT PRACTICE)				☐ N/A	IN COMPLIANCE? (Check One)		Significant Risk
					N/A	Y	N
17. Exception #1, "SMZ Greater Than 10% of Tract Area," correctly applied?				☐	☐	☐	☐
18. Exception #2 "Managed Pine Timber," correctly applied?				☐	☐	☐	☐
19. Exception #3a "Add-On," correctly applied?				☐	☐	☐	☐
20. Exception #3b "Stand Quality Improvement," correctly applied?				☐	☐	☐	☐
SECONDARY ZONE (If N/A, Check N/A box and move on to the NEXT PRACTICE)				☐ N/A			
21. Kept mechanical site preparation out of the Secondary Zone?				☐	☐	☐	☐
22. Kept log loading decks and landings out of the Secondary Zone?				☐	☐	☐	☐
23. Avoided new road construction within the Secondary Zone, except for designated stream crossings?				☐	☐	☐	☐
24. Restricted site preparation burns to <18% slope?				☐	☐	☐	☐
25. Kept main skid trails out of the Secondary Zone, except for designated stream crossings?				☐	☐	☐	☐
26. When possible, avoided pre-suppression plowed firelines within the Secondary Zone?				☐	☐	☐	☐
27. Cleaned spray equipment from pesticide and fertilizer applications outside of Secondary Zone?				☐	☐	☐	☐
STRINGER (Applies to Intermittent Streams, Lakes 2 Ac.+, and Sinkholes) (If N/A, Check N/A box and move on to the NEXT PRACTICE)				☐ N/A			
28. Provided a continuous and connected canopy?				☐	☐	☐	☐
29. Left all trees in stream channel/banks?				☐	☐	☐	☐
30. Minimized disturbance to stream banks?				☐	☐	☐	☐
TOTALS							
COMPLIANCE FOR CATEGORY (%)							

Section A: Forestry Water Quality Provisions for Wildlife BMPs

D. OPERATIONS ADJACENT TO SINKHOLES ☐ N/A				
<i>(Refer to page 24 of the 2008 BMP Manual) (If N/A, check box and move on to NEXT CATEGORY)</i>				
GENERAL SINKHOLE BMPs	IN COMPLIANCE? (Check One)			Significant Risk
	N/A	Y	N	
1. Avoided placing logging debris, trash or waste into sinkhole or in drainage feature flowing into sinkhole?	☐	☐	☐	☐
2. Avoided mechanical operations (harvest or site preparation), fertilization, and pesticide use within sinkholes?	☐	☐	☐	☐
3. Avoided altering adjacent land surface to discharge into sinkhole?	☐	☐	☐	☐
TOTALS				
COMPLIANCE FOR CATEGORY (%)				

Section A: Forestry Water Quality Provisions for Wildlife BMPs

F. STREAM CROSSINGS ☐ N/A					
<i>(Refer to pages 28-30 of the 2008 BMP Manual) (If N/A, check box and move on to NEXT CATEGORY)</i>					
GENERAL STREAM CROSSING BMPs (If N/A, Check N/A box and move on to the NEXT PRACTICE)	☐ N/A	IN COMPLIANCE? (Check One)			Significant Risk
		N/A	Y	N	
1. Minimized number of stream crossings on site?		☐	☐	☐	☐
2. Crossed the stream perpendicular to the flow?		☐	☐	☐	☐
3. Located stream crossing(s) on narrow section of stream?		☐	☐	☐	☐
4. Located crossing(s) on straight segment(s) of stream?		☐	☐	☐	☐
5. Stabilized erodible fill material and other areas normally exposed to flowing water?		☐	☐	☐	☐
6. Avoided construction during high water conditions?		☐	☐	☐	☐
CULVERTS (If N/A, Check N/A box and move on to the NEXT PRACTICE)		☐ N/A			
7. Culvert properly installed?		☐	☐	☐	☐
8. Culvert size adequate to accommodate normal flow?		☐	☐	☐	☐
9. Repaired or replaced damaged culverts?		☐	☐	☐	☐
10. Kept culvert openings free of debris and/or obstructions?		☐	☐	☐	☐
11. Temporary culvert size sufficient for expected seasonal flow conditions?		☐	☐	☐	☐
12. Temporary culvert removed immediately after operation?		☐	☐	☐	☐
HARD-SURFACE CROSSING BMPs (If N/A, Circle and move on to NEXT PRACTICE)		☐ N/A			
TYPE OF ARMORING MATERIAL USED FOR HARD-SURFACE CROSSINGS ON THIS SITE: ☐ None Used ☐ Limerock ☐ Gravel ☐ Concrete ☐ Logs ☐ Slag ☐ Other:					
13. Used non-petroleum based material for armoring?		☐	☐	☐	☐
14. Stream bottom/banks appropriate for this type of crossing?		☐	☐	☐	☐
15. Used clean material with size, weight, and texture of armoring material suitable to stream flow?		☐	☐	☐	☐
16. Avoided stream impoundment with crossing installation?		☐	☐	☐	☐
17. Removed temporary materials after completion of operation?		☐	☐	☐	☐
TOTALS					
COMPLIANCE FOR CATEGORY (%)					

Section A: Forestry Water Quality Provisions for Wildlife BMPs

N. PUBLIC LANDS ☐ N/A <i>(Refer to page 16 of the 2008 BMP Manual) (If N/A, check box and move on to NEXT CATEGORY)</i>				
BMPs	IN COMPLIANCE? (Check One)			Significant Risk
	N/A	Y	N	
1. Areas within SMZ designated as Primary Zone managed as no cut unless for ecological restoration or wildlife habitat enhancement?	☐	☐	☐	☐
TOTALS				
COMPLIANCE FOR CATEGORY (%)				

NOTES:

FFS BMP FORESTER SIGNATURE	DATE	FFWCC BIOLOGIST SIGNATURE	DATE
PRINT NAME	PHONE	PRINT NAME	PHONE

Appendix 5 - 2017 Florida Forestry Wildlife Best Management Practices

Date Visited	Ownership	County	WBMP % Compliance	STR List	Lat	Long	H2O BMP SURVEY NUMBER
2/10/2017	IND	JEFFERSON	100	6-3S-4E	30.2516	-83.9609	BS17-JEFF1
2/28/2017	IND	FRANKLIN	100	33-6S-3W	29.9112	-84.5412	BS17-FRK-1
4/6/2017	PNIF	GADSEN	100	33-3N-SW	30.6143	-84.7452	BS17-GAD-2
5/1/2017	IND	JEFFERSON	100	27-2S-4E	30.2817	-83.9198	BS17-JEFF-2
7/10/2017	IND	GADSEN	100	6-2N-1W	30.5962	84.3645	BS17-GAD-3
12/14/2017	IND	TAYLOR	100	12-8S-10E	29.7995	83.291	BS17-TAY-6
12/14/2017	IND	TAYLOR	100	24-7S-RSF	29.8587	83.3801	BS17-TAY-7
12/14/2017	IND	TAYLOR	100	9-4S-9E	30.152	83.4356	BS17-TAY-8
4/5/2017	PUBLIC	OSCEOLA	100	33-29S-33F	27.9143	-81.0283	17-OSC-01
4/18/2017	IND	LEVY	100	15-15S-16E	29.1795	-82.6939	17-LEV-01
4/18/2017	IND	LEVY	100	12-15S-15E	29.1869	-82.7377	17-LEV-02
4/18/2017	IND	LEVY	100	23-15S-16E	29.1631	-82.6648	17-LEV-03
4/18/2017	IND	LEVY	100	35-15S-16E	29.1415	-82.6536	17-LEV-04
4/19/2017	PUBLIC	ALACHUA	100	13-9S-20E	29.71152	-82.2563	17-ALA-02
4/19/2017	PUBLIC	ALACHUA	100	15-7S-18E	29.88011	-82.508	17-ALA-03
5/4/2017	PUBLIC	UNION	100	16-5S-21E	30.06474	-82.2134	17UNI-01
6/23/2017	IND	BRADFORD	100	22-7S-20E	29.87022	-82.2939	17BRA-01
7/6/2017	IND	PUTNAM	100	4-8S-26E	29.8338	-81.7106	17-PUT-03
7/12/2017	PNIF	COLUMBIA	100	15-1S-17E	30.40695	-82.5997	17-COL-05
7/12/2017	PNIF	COLUMBIA	100	14-1S-17E	30.40643	-82.5896	17-COL-04
7/21/2017	IND	NASSAU	100	11-1S-23E	30.42183	-81.9729	17-NAS-04
7/21/2017	IND	NASSAU	100	23-1S-23E	30.40414	-81.9683	17-NAS-05
8/15/2017	IND	ALACHUA	100	2-11S-21E	29.55694	-82.1843	17-ALA-05
8/15/2017	PUBLIC	ALACHUA	100	33-6S-19E	29.9195	-82.4169	17-ALA-06
8/15/2017	IND	PUTNAM	100	26-8S-25E	29.77248	-81.7638	17-PUT-05
8/16/2017	IND	BAKER	100	4-4S-20E	30.17246	-82.3018	17-BAK-03
8/16/2017	IND	BAKER	100	6-4S-20E	30.17189	-82.3403	17-BAK-04
8/16/2017	IND	COLUMBIA	100	3-4S-18E	30.17876	-82.4972	17-COL-06
8/29/2017	PNIF	ST JOHNS	100	29-16S-18E	29.0582	-82.5045	17-Mar-06
10/10/2017	PNIF	ST JOHNS	100	2-8S-28E	29.84098	-81.4513	17-STJ-03
10/10/2017	IND	VOLUSIA	100	34-7S28E	29.84519	-81.4718	17-STJ-04
10/11/2017	IND	BAKER	100	14-2S-20E	30.31489	-82.2804	17-BAK-05
10/11/2017	IND	BAKER	100	27-2S-20E	30.27569	-82.3085	17-BAK-06
10/11/2017	IND	BAKER	100	9-4S-20E	30.15742	-82.3037	17-BAK-07
10/24/2017	PUBLIC	CHARLOTTE	100	22-42S-23E	26.80829	-81.9983	17-CHA-01
10/25/2017	PNIF	GLADES	100	6-40S-28E	27.02116	-81.5584	17-GLA-01
10/25/2017	PNIF	GLADES	100	23-41S-30E	28.89269	-81.2967	17-GLA-02
11/8/2017	IND	FLAGLER	100	2-11S-29E	29.57608	-81.3523	17-FLA-04
11/8/2017	IND	FLAGLER	100	6-11S-30E	29.57223	-81.3181	17-FLA-05
11/8/2017	IND	ST JOHNS	100	29-9S-29E	29.68382	-81.408	17-STJ-06
11/8/2017	PUBLIC	ST JOHNS	100	3-6S-28E	30.01473	-81.4753	17-STJ-07