

MILLER LEGG

June 3, 2005

Steve Lau
Florida Fish and Wildlife Conservation Commission
Environmental Services Field Office
255 154th Avenue
Vero Beach, FL 32968-9041
(772)778-5094 x106

RE: Victoria Park Scrub Jay Monitoring Report 2005
Miller Legg Project No. 04-00225

Dear Mr. Lau:

Please find enclosed the 2005 Florida Scrub Jay Monitoring Report for the Victoria Park Property. The ±1,859-acre property primarily consists of residential communities, golf courses, commercial tracts and numerous preservation areas. Victoria Park is adjacent to County Road 4101 (Martin Luther King, Jr. Beltway), Orange Camp Road, Taylor Road, State Road 472, Blue Lake Road, and Interstate 4 near Deland, Volusia County, Florida.

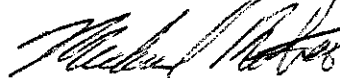
If you have any questions, please contact me by email at mroberts@millerlegg.com or by phone at (407) 629-8880.

Sincerely,

MILLER LEGG



Carolyn Malphurs
Environmental Technician



Michael Roberts
Senior Biologist

62770-7

Cc: Lee Kissick, SJRWMD
Brad Walker, St. Joe Towns and Resorts
Jim Nugent, P.E., DWMA

CM/cm/mr
Enclosures

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JUN 15 2005

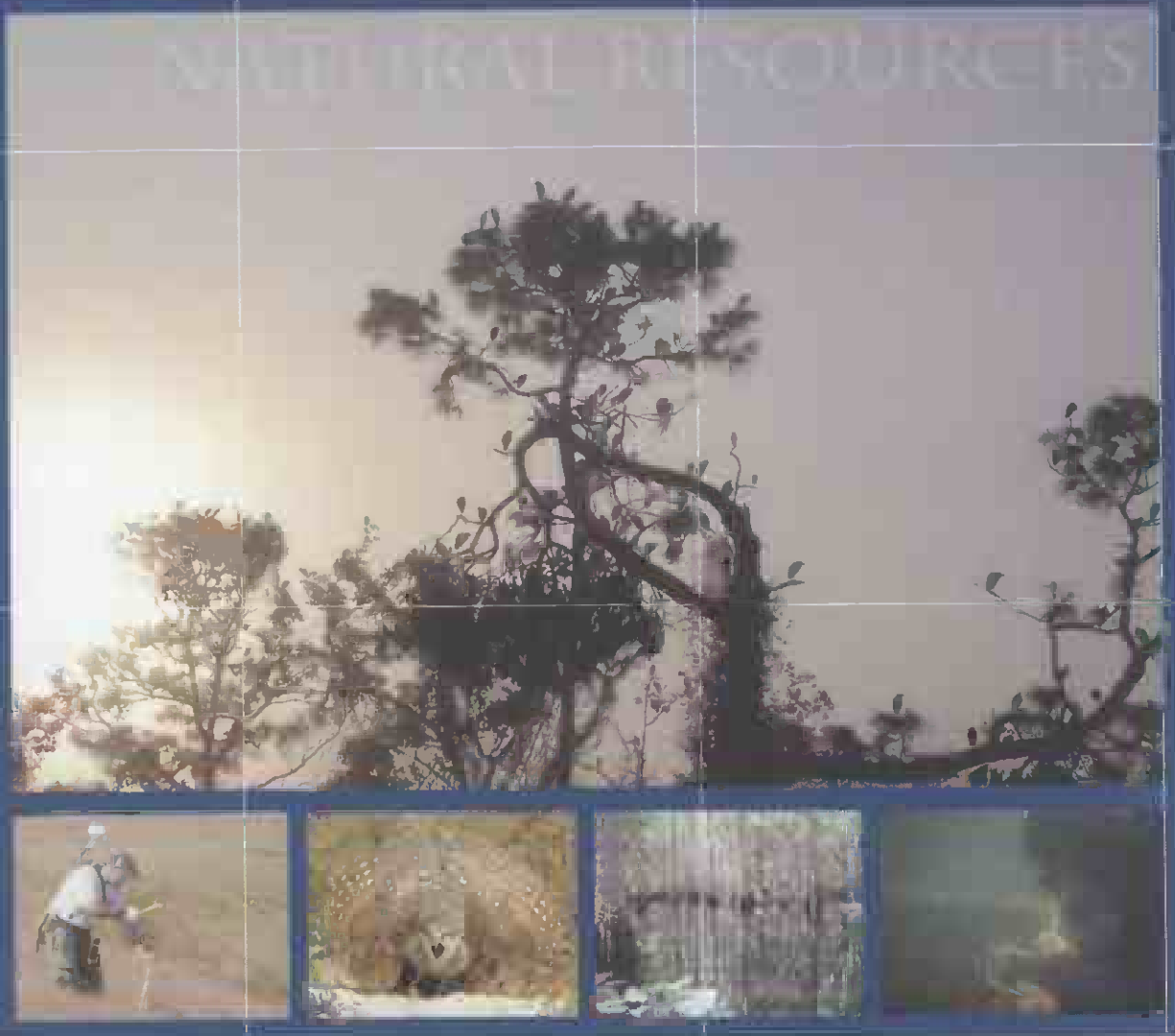
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Annual Florida Scrub Jay Report 2005



*"Improving
Communities ...*

*... Creating
Environments"*

**SJRWMD Permit No. 4-127-0369C-ERP
Miller Legg Project No. 04-00225**

62770-7

Prepared for:
St. Joe Towns and Resorts

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VICTORIA PARK MITIGATION AREA
Florida Scrub Jay Report 2005

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
I. INTRODUCTION	1
II. PROJECT LOCATION	1
III. LICENSE/PERMIT INFORMATION	1
IV. HABITAT MONITORING	2
V. POPULATION MONITORING	3
VI. INCIDENTAL WILDLIFE OBSERVATIONS	5
VII. MAINTENANCE	6
VIII. NEXT MONITORING REPORT	8
IX. SUMMARY	8

FIGURES

LOCATION MAP	10
HABITAT MONITORING MAP	12
SCRUB JAY SURVEY MAP	14
PRESCRIBED FIRE BURN UNITS	16
TABLES	18
PHOTOGRAPHS	26

Victoria Park Mitigation Area Scrub Jay Report 2005

I. INTRODUCTION

Victoria Park is a 1,859-acre multi-use Development of Regional Impact (DRI #698-06) located in southern Volusia County, Florida. The project includes residential communities, a golf course, commercial tracts and numerous preservation areas. This project includes a 151-acre preserve that is being managed and monitored primarily for the Florida Scrub Jay (*Aphelocoma coerulescens coerulescens*) and Gopher Tortoise (*Gopherus polyphemus*). The preserve is located in the northeast quadrant of the project and is comprised of ± 111 acres of uplands and ± 40 acres of wetlands. The Florida Scrub Jay is classified as "Threatened," by the Florida Fish and Wildlife Conservation Commission (FFWCC) and the U.S. Fish and Wildlife Service (USFWS). This classification provides protection to this species and to various habitats in which resident Scrub Jays have been identified. This monitoring report is to document the status of the habitat since the 2001 prescribed burn and the population status of the Florida Scrub Jay.

II. PROJECT LOCATION

The Victoria Park project is adjacent to County Road 4101 (Martin Luther King, Jr. Beltway), Orange Camp Road, Taylor Road, State Road 472, Blue Lake Road and Interstate 4 within Sections 22-27, 34, 35, and 36; Township 17 South and Range 30 East, near Deland in Volusia County, Florida. The project site is divided into four quadrants (NE, NW, SE, and SW). The focus of this report is found within the Northeast section, on the Scrub Jay/Gopher Tortoise Preserve (See Location Map).

III. LICENSE/PERMIT INFORMATION

- A. The SJRWMD Permit No. 4-127-0369C-ERP was issued to St. Joe Residential Acquisitions, Inc. on October 12, 1999; the permit will expire 20 years from the date of issuance of the construction permit associated with the project. The Site Mitigation and Management Plan (SMMP) will provide for sufficient preservation of jay habitat types to minimize development impacts to the environmental features of the site. This approach required the creation of an active and ongoing mitigation and management plan.
- B. Volusia County issued the following permit numbers to Sam Van Hook (Kissimmee Valley Forester) to conduct the initial controlled burn on the Scrub Jay/Gopher Tortoise Preserve: #85226, #87373, #87709, #89986, #90228, and #93224. The burn took place on November 24, 30, and December 1, 8, 9, and 18, 2001 and burned approximately 48 acres on management units three and four of both the north and south preserve.

IV. HABITAT MONITORING

The Scrub Jay/Gopher Tortoise Preserve is mostly comprised of a sandhill community and shrub and brushland habitat. The objective of the habitat management plan is to improve the habitat in the preserve for the Florida Scrub Jay and gopher tortoise. The habitat must be monitored to assess the habitat quality and the success of the management activities.

1. Methods

A total of 16 habitat monitoring transects, 100 feet long and 15 feet wide, were randomly selected in the preserve. The approximate location of these transects are illustrated the Habitat Monitoring Transects Map. Observations were recorded in field notes. Qualitative data collected includes:

- 1) Dominant groundcover plant species,
- 2) Relative amount of bare ground,
- 3) Relative amount of leaf litter,
- 4) Approximate scrub oak coverage (under 10ft),
- 5) Average scrub oak height (below 10ft),
- 6) Approximate scrub oak coverage (above 10ft),
- 7) Approximate total canopy coverage, and
- 8) Dominant canopy species.

2. Results

Miller Legg conducted habitat monitoring surveys on March 22 and 23, 2005 in the Scrub Jay/ Gopher Tortoise preserve. The results of the habitat monitoring event are provided in Table 1 and photos can be found on page 26.

From Table 1, saw palmetto (*Serenoa repens*) and fetterbush (*Lyonia lucida*) were the most commonly observed dominant groundcover species along the monitoring transects. All but one of the transects (No. 9) included either saw palmetto or a combination of saw palmetto and fetterbush. Scrub oak (*Quercus* sp.) was commonly observed along Transects 9, 10, 11, and 14.

Bare ground was only observed along eight of the 16 transects (or 50%). Very minimal to moderate bare ground was observed along Transects 1, 6, 9, 11, 13, 14, 15, and 16. Larger patches of bare ground were also noted outside and near Transects 6, 9, 11, 13, and 14. In observing the ground cover of the transects, there was evidence of flooding in nine transects (No. 1, 3, 4, 5, 7, 8, 14, 15, and 16). It is most likely due to the copious amounts of rainfall received when Central Florida was hit by three major hurricanes during August and September of 2004.

Leaf litter was quite heavy along nine of the 16 transects (or 56%). This is most likely due to the dense canopy and oak coverage, lack of fire, and down limbs and trees, presumably from the strong winds during the 2004 hurricane season and from some mechanical thinning activities. Heavy leaf litter occurred in Transects 2, 9, 10, 11, 12,

13, 14, 15, and 16. Dense canopy coverage equal to or greater than approximately 50% was observed along Transects 2, 9, 10, 12, and 15. Sand live oak (*Quercus geminata*), longleaf pine (*Pinus palustris*), and turkey oak (*Quercus laevis*) were the most commonly observed canopy species along the monitoring transects. Three transects (No. 13, 14, and 16) had approximately 50% or greater coverage of scrub oaks under 10 feet. This large amount of scrub oak coverage probably contributed to the heavy leaf litter as well.

Scrub oak (*Quercus* sp.), from Table 1, refers to any and all of the following scrub oak species: *Q. chapmanii*, *Q. geminata*, *Q. inopina*, and *Q. myrtifolia*. Additional plant species were also observed during this monitoring event that was not listed in Table 1. These species were observed much less frequently and included reindeer moss (*Cladina* sp.), broomsedge (*Andropogon virginicus*), and gallberry (*Ilex glabra*).

V. POPULATION MONITORING

The Florida Scrub Jay population survey was conducted within the Scrub Jay/Gopher Tortoise Preserve. The preserve consists of two sections the north and south. This section labeling is helpful in management unit identification and locating family ranges. The survey is consistent with the methodologies described in Ecology and Development Related Habitat Requirements of the Florida Scrub Jay (*Aphelocoma coerulescens coerulescens*), Non-game Wildlife Program Technical Report No. 8. Scrub Jay monitoring took place between March and June, during the nesting season when the jays were most likely to defend their nesting territory.

1. Methods

Eighteen parallel monitoring transects (Transects A-R) were randomly drawn on an aerial photograph in the upland communities within the preserve. The survey transects varied in length ranging between 400 feet and 1200 feet. Between two and five stations were established along the monitoring transects. Observation stations were established along each transect, roughly 100 feet from the preserve edge, and with approximately 200-foot intervals. The stations were numbered sequentially from west to east along each transect. The approximate location of the monitoring transects and observation stations can be found on the Population Monitoring Transects Map (See page 13).

A cassette tape broadcasting recorded vocalizations of Scrub Jay "scold calls", produced by the Archbold Biological Station, was played at each station within the preserve. The recordings were broadcast for a minimum of one minute in four directions (N, E, S, and W). All observations were recorded including the area (station) where the jay(s) was seen, the number of jays present, the direction the jay(s) came from when responding to the cassette tape and individual characteristics of the jay(s) responding when possible (i.e. juvenile or adult). Survey transects were walked in different sequences during the survey so that play stations were visited during different times of the day. This includes the start and end times, weather conditions and the location of the observed jays during the survey.

2. Results

The 2005 surveys were performed until all of the observation stations were visited five times, which occurred in six days (March 8, 10, 11, 14, 15, and 29). Some areas were monitored two extra days (April 5 and 13) to confirm the results. The surveys were terminated or not implemented if weather conditions were not conducive to the survey objectives. Weather conditions made consecutive day monitoring very difficult, due to many cold fronts moving across Florida during this monitoring period. On the days monitored, the average overnight low temperature was approximately 60°F (degrees Fahrenheit) and gradually increased during the course of the day to an average of approximately 75°F.

All observations of Scrub Jays during the survey were recorded in Tables 2 through 7. At the time of the survey, the scrub jays were observed in Management Unit (MU) No. 4 in the north preserve.

Day 1 (March 8)

The Scrub Jay observations made during this survey are provided in Table 2. The first day was rainy in the morning and then cleared up 100% at approximately 11:00am. Monitoring began at approximately 12:30pm and therefore all of the transect stations were not visited. The morning low was 64°F with a high in the afternoon of 70°F. Wind gusts were moderate to strong the first day (15-25 mph). No jays were observed the first day.

Day 2 (March 10)

The Scrub Jay observations made during this survey are provided in Table 3. The second day of monitoring was sunny with 100% visibility. The morning low was 47°F and with a high in the afternoon of 65°F. Wind speed was calm to moderate at approximately 5-10 mph. Three jays were observed coming from the south at station L3 at approximately 11:00am. Station L3 is located in the north preserve in Management Unit (MU) No. 4

Day 3 (March 11)

The Scrub Jay observations made during this survey are provided in Table 4. The third day of monitoring was sunny with 100% visibility. The morning low was 43°F and warmed up quickly to a high in the afternoon of 73°F. Wind gusts were moderate to strong at approximately 10-20 mph. No jays were observed the third day.

Day 4 (March 14)

The Scrub Jay observations made during this survey are provided in Table 5. During the fourth day of the survey, the weather was partly cloudy in the morning and then rainy after noon. Monitoring was terminated when it began to rain. The morning low was 65°F and with a high in the afternoon of 78°F. Wind speed was moderate at approximately 10-15 mph. Near the north preserve MU 4, construction teams were burning piles of brush in northeast increment three and filling the air with smoke. That

activity probably lowered the chance for jays to respond. No jays were observed the fourth day.

Day 5 (March 15)

The Scrub Jay observations made during this survey are provided in Table 6. During the fifth day of the survey, the weather was overcast throughout the day. The morning low was 61°F and with a high in the afternoon of 69°F. Wind speed was calm to moderate at approximately 0-10 mph. Near the north preserve MU 4, construction teams were still burning piles of brush in northeast increment three, but the smoke was not as thick as Day 4. No jays were observed the fifth day.

Day 6 (March 29)

The Scrub Jay observations made during this survey are provided in Table 7. During the sixth day of the survey, the weather was ideal for monitoring. The morning low was 68°F and with a high in the afternoon of 81°F. Wind speed was calm to moderate at approximately 5-10 mph. Three jays were observed coming from the south at station L3 at approximately 8:40am. The same three jays were observed coming from the north at station K3 at approximately 8:55am. Station L3 and K3 are located in the north preserve in Management Unit (MU) No. 4.

Day 7 (additional day, April 5)

No Scrub Jays were observed during this survey. Monitoring on this day focused on the best scrub jay habitat within the south preserve. The weather was ideal for monitoring. The morning low was 62°F and with a high in the afternoon of 81°F. Wind speed was calm to moderate at approximately 5-10 mph.

Day 8 (additional day, April 13)

No Scrub Jays were observed during this survey. Monitoring on this day focused on the best scrub jay habitat within the north preserve, besides where the known family is located. The weather was ideal for monitoring. The morning low was 68°F and with a high in the afternoon of 80°F. Wind speed was calm to moderate at approximately 5-10 mph.

VI. INCIDENTAL WILDLIFE OBSERVATIONS

The following faunal species were observed, or evidence there-of, within or near the Scrub Jay/Gopher Tortoise Preserve:

MAMMALS

SPECIES	COMMON NAME
<i>Odocoileus virginianus</i>	White-tailed Deer
<i>Procyon lotor</i>	Raccoon

AMPHIBIANS AND REPTILES

<i>Anolis carolinensis</i>	Green Anole
<i>Anolis sagrei</i>	Brown Anole
<i>Coluber constrictor priapus</i>	Southern Black Racer
<i>Hyla cinerea</i>	Green Tree Frog

BIRDS

<i>Anhinga anhinga</i>	Anhinga
<i>Aphelocoma coerulescens</i>	Florida Scrub Jay
<i>Ardea alba</i>	Great Egret
<i>Ardea herodias</i>	Great Blue Heron
<i>Buteo jamaicensis</i>	Red-Tailed Hawk
<i>Buteo lineatus</i>	Red-Shouldered Hawk
<i>Cathartes aura</i>	Turkey Vulture
<i>Charadrius vociferus</i>	Killdeer
<i>Coragyps atratus</i>	Black Vulture
<i>Dumetella carolinensis</i>	Grey Catbird
<i>Elanoides forficatus</i>	Swallow-tailed Kite
<i>Eudocimus albus</i>	White Ibis
<i>Grus Canadensis</i>	Sandhill Crane
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Mycteria americana</i>	Wood Stork
<i>Parus bicolor</i>	Tufted Titmouse
<i>Parula americana</i>	Northern Parula
<i>Phalacrocorax auritus</i>	Double-crested Cormorant
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Pipilo erythrophthalmus</i>	Eastern Towhee
<i>Polioptila caerulea</i>	Blue-grey Gnatcatcher
<i>Quiscalus major</i>	Boat-Tailed Grackle
<i>Tachycineta bicolor</i>	Tree Swallow
<i>Turdus migratorius</i>	American Robin
<i>Zenaida macroura</i>	Mourning Dove

A single Scrub Jay was observed within the south preserve near Transect H on February 16, 2005. This observation did not occur during the monitoring season. This jay was probably from the family located in the north preserve and traveled the far distance in search of food. No other Scrub Jays were observed in this area as of April 2005.

VII. MAINTENANCE

The upland habitats in the Scrub Jay/Gopher Tortoise Preserve Area are maintained using the following techniques: controlled burns, mechanical chopping, timbering, and mowing. Controlled burns will, however, be the primary tool utilized for habitat management. The use of

fire as a management tool in the preserve areas will closely mimic the natural element of fire in the ecology of scrub habitats. All management activities, especially controlled burns, will be sensitive to critical periods of scrub jays (i.e. October through February during courtship and reproductive activities).

The preserve is divided into four management units per preserve (north and south); thereby, allowing the differences in vegetative density and age to be considered when determining type and intensity of management. Unit management will allow as much of the preserve as possible to be maintained in optimal condition. The management units will be treated individually with the areas of active management being rotated to minimize short-term impacts to wildlife species and to create mosaics in stand age, vegetative diversity, and vegetative density within the area.

Mowing will be used to keep some herbaceous species at lower heights, to increase native herbaceous species, and to discourage woody saplings from growing up and closing the understory. Mowing will mostly assist in maintaining optimal habitat for gopher tortoises, but will also provide some management value for jays. Bush hogging and/or dry drum chopping would disturb the ground layer by increasing patches of open sand. These methods could also be used to decrease the density of scrubby species in the understory to maintain the necessary ratio of scrub oaks to open space for optimal scrub jay nesting habitat. Bush hogging and chopping would also aid in keeping the trees from closing in the canopy.

Selective thinning of large trees was conducted in the preserve to provide better habitat for the Scrub Jays and to allow sun to penetrate to the ground layer. Mechanical trimming of scrub oaks will occur (as needed) to keep oaks at heights no greater than 13 feet – the optimal height for scrub jay use, with the exception of a few scattered sentinel trees up to 15 feet in height. Sentinel trees may consist of any species and may even be dead.

Mechanical habitat management will be conducted only during October through February to minimize disruption of courtship and reproductive activities of Florida Scrub Jays. This timing will also coincide with the spring growing season, enabling quicker recovery for any cut plant species.

The management activities for the preserve will only be conducted during non-nesting periods for jays. The management plan for the preserve includes the removal of pine trees. This activity will improve habitat conditions for Scrub Jays. The tree removal was performed as needed to lower the canopy coverage to less than 20%, as recommended in the Florida Fish and Wildlife Conservation Commission's (FWCC) Ecology and Development Related Requirements of the Florida Scrub Jay Non-game Wildlife Program Technical Report No. 8.

Fire lanes were created through the preserve. The initial burn has been completed and focused on areas that had become dominated by a saw palmetto groundcover and dense canopy. Patches of scrub that was not unsuitable for Scrub Jays and gopher tortoises were avoided during the initial burn. The included photographs illustrate the condition of the habitat within the habitat monitoring transects.

The initial controlled burn occurred in November and December 2001. Approximately 48 total acres were successfully burned in management units three and four of both the north and south preserves. The average wind speed for all burns was recorded to be less than 10 mph with some occasional wind gusts reaching 15 mph. The average temperature during the burns was between 73 and 84 degrees Fahrenheit with a relative humidity between 40 and 70 percent. Burns took place between approximately 10:30am and 4:30pm. The time to complete each burn was between 4 and 5 hours. During the controlled burns, approximately ninety percent (90%) of the understory and leaf litter was consumed.

The second controlled burn event, and each subsequent burn, will be conducted in the preserve approximately every three years after the previous burn. The each burn event will only occur on 25% of each preserve area (north and south), as recommended in the FFWCC in its Ecology and Development Related Requirements of the Florida Scrub Jay Non-game Wildlife Program Technical Report No. 8. This is to ensure that the jays have adequate habitat while the burned areas regenerate. Essentially, after the initial burn, each quarter of the jay preserve will be burned every 12 years. This frequency of burning is ideal for the scrub-habitat requirements of Scrub Jays. The second burn will be conducted in management unit two during the late summer or early fall of 2005, with the weather permitting.

The alternating burn program was designed to ensure ideal habitat conditions for jays year-round, as well as to focus on the objectives of minimizing saw palmetto coverage, creating open sandy areas and controlling invasive canopy species. As mentioned, mechanical harvesting will supplement the objectives of the burn plan. This burn program will be easily managed due to the lowered fuel that will be available for each subsequent burn and will be safer for adjacent properties. All controlled burns and other maintenance activities will be conducted by Native Technologies, Inc., an ecosystem and restoration contractor.

VIII. NEXT MONITORING REPORT

The next monitoring report will be prepared for review in 2006.

IX. SUMMARY

Included in the site plan design for the Victoria Park project is a 151± acre preserve that is being managed and monitored primarily for the Florida Scrub Jay and gopher tortoise. The preserve is compromised of approximately 111± acres of uplands for Scrub Jays.

Habitat Monitoring

The habitat monitoring will document the success and need of the planned management activities, particularly controlled burning. This year's habitat monitoring event shows that the some sections of the preserve are in immediate need of maintenance to restore the area to good Scrub Jay habitat. A controlled burn on management unit two will be scheduled for late summer

or early fall with the weather permitting. However, this plan may be modified to include another management unit to keep the utmost quality of habitat available for Scrub Jays. The introduction of fire and selective clearing has and will continue to dramatically reduce dense ground cover vegetation and canopy coverage. Ultimately, this practice and other mechanical means (mowing, chopping, etc.) will be beneficial for the Scrub Jay population within the preserve.

Population Monitoring

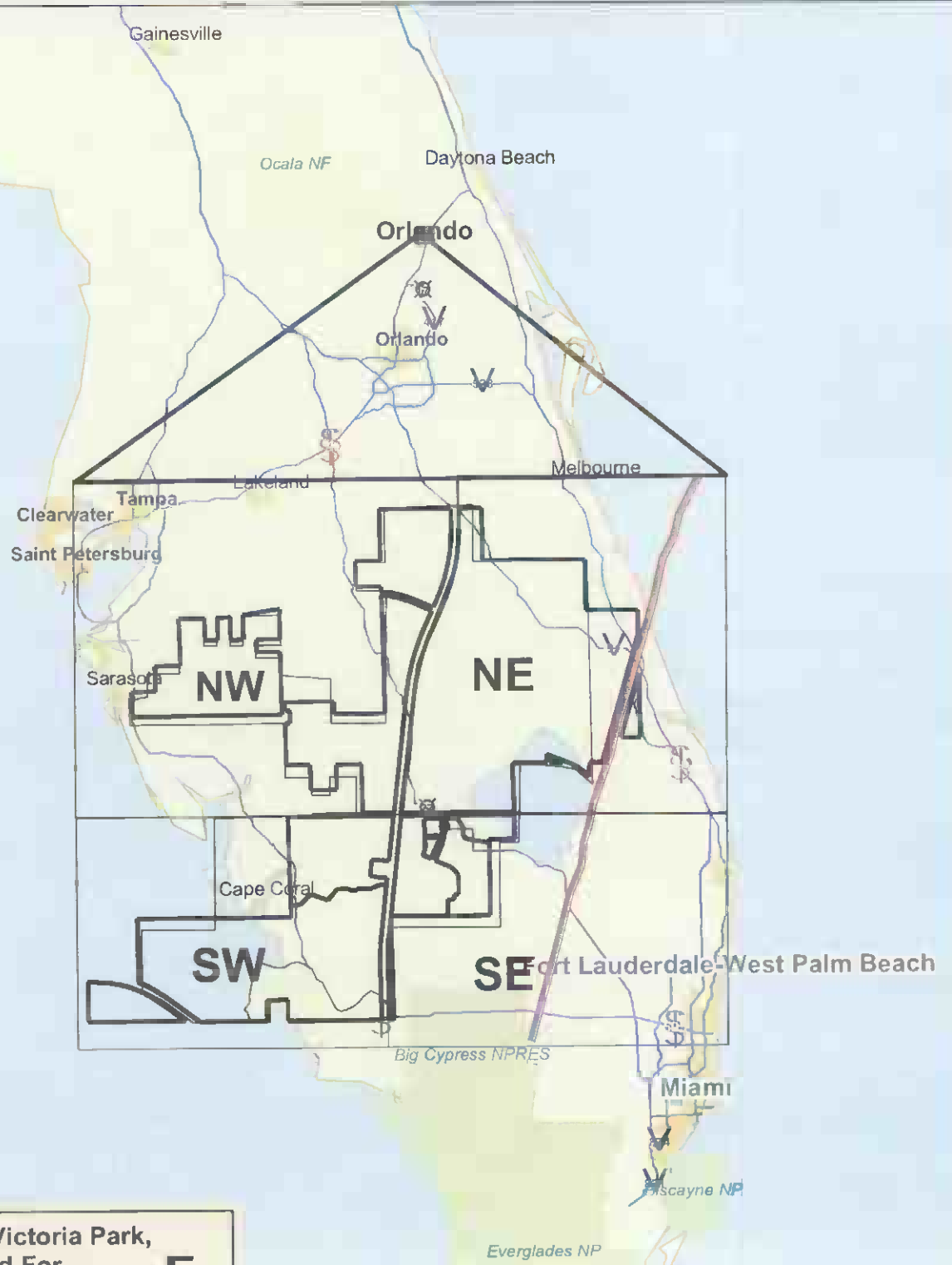
Miller Legg performed the Florida Scrub Jay survey within the Scrub Jay/Gopher Tortoise Preserve located in the northeast portion of the project site. The survey was conducted to approximate territorial ranges of the Scrub Jays within the preserve, and to determine how many jays are present within the preserve including the number of families present and the number of individual jays per family. Habitat monitoring in the preserve was also conducted to document the conditions of the preserve after the habitat management activities were conducted.

From the observations recorded during the 2005 population monitoring event, it appears that only one family of jays is utilizing the preserve. Again, based on flight patterns and cover present, it appears that the home range of the jay family is located within the north preserve. Even though no other jays were observed during the survey, one Scrub Jay was observed in the south preserve near Transect H in February 2005 (before the nesting season began). This jay was probably from the same family exploring for food.

The weather conditions were often undesirable, which kept the five monitoring days from being consecutive. After the five-day monitoring event was completed, two additional days of monitoring were added to confirm there was only one family on the preserve. The two days were chosen when the weather was perfect for monitoring. The location of this additional monitoring was focused on the location of the best Scrub Jay habitat within the preserve and previous Scrub Jay observations

LOCATION MAP

Location Map Victoria Park City of Deland, Florida



Location Map Victoria Park,
Prepared For,
St. Joe Company,
by
Miller Legg & Associates, Inc.

F

January 21st, 2005

Legend
 Map Key
 SW3
 Victoria_Boundary_SP83
 I4

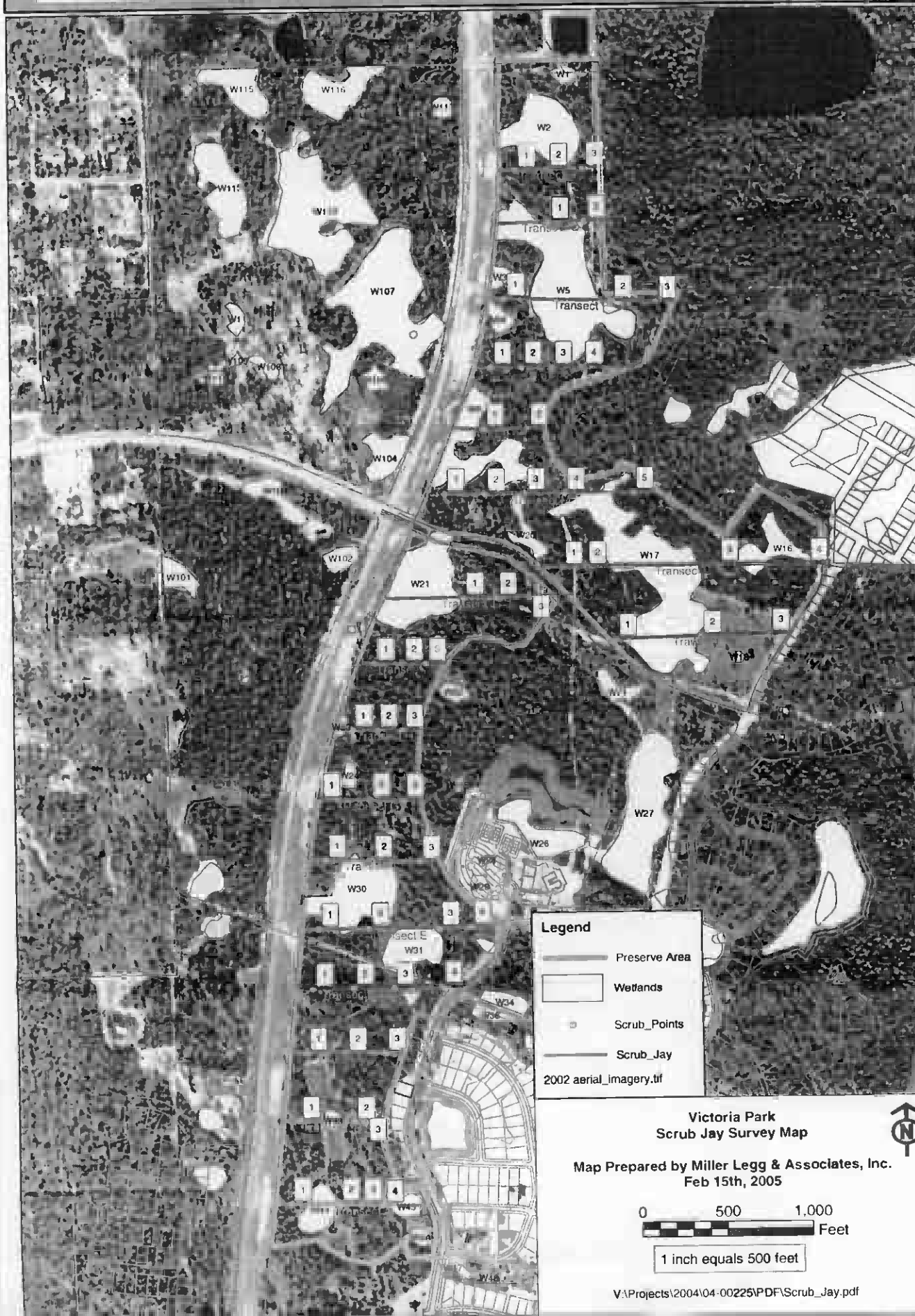
HABITAT MONITORING TRANSECTS MAP

Victoria Park Habitat Monitoring Map



POPULATION MONITORING TRANSECTS MAP

Victoria Park Scrub Jay Survey Map

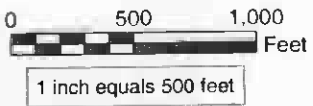


Legend

- Preserve Area
- Wetlands
- Scrub_Points
- Scrub_Jay
- 2002 aerial_imagery.tif

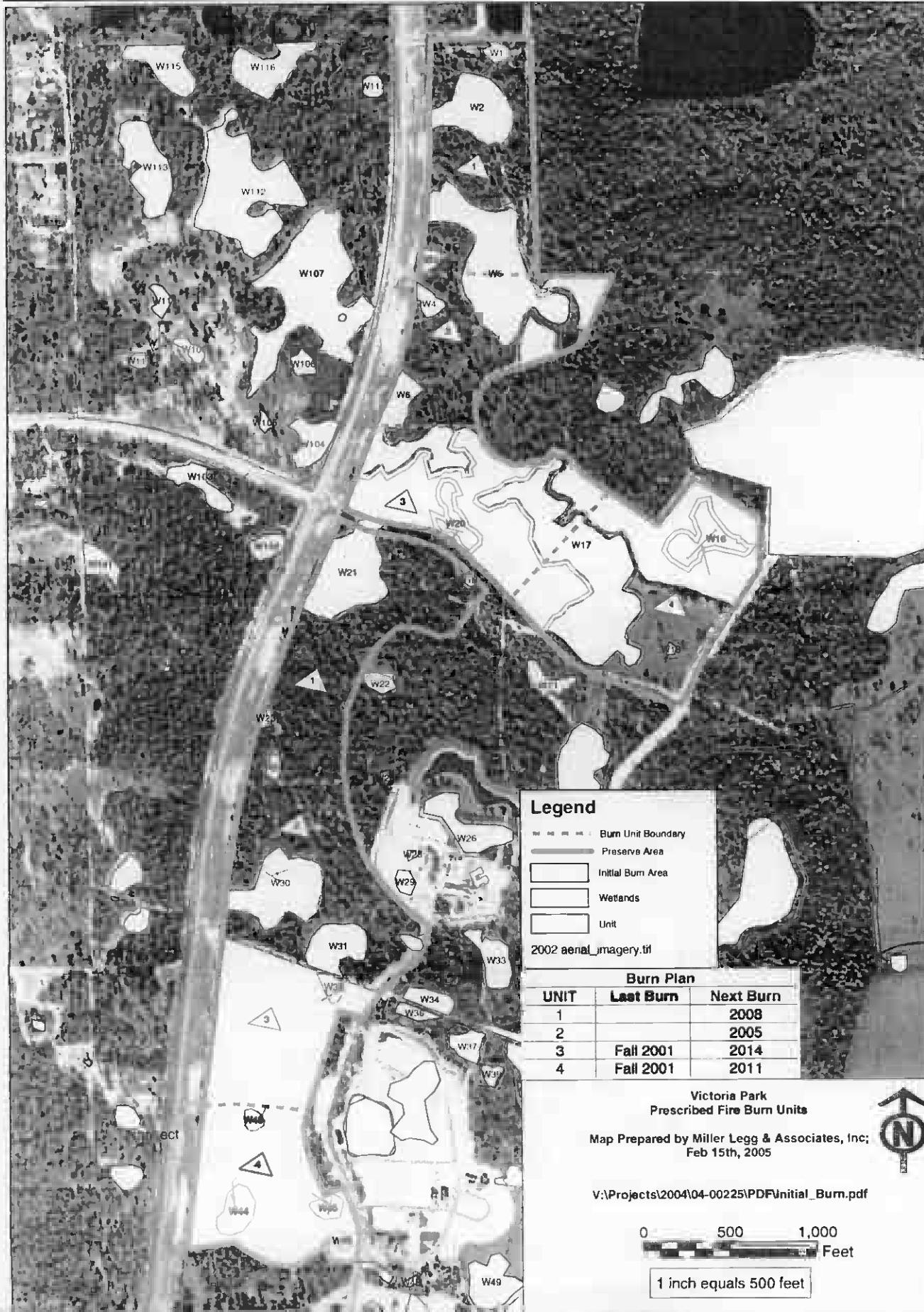
Victoria Park
 Scrub Jay Survey Map

Map Prepared by Miller Legg & Associates, Inc.
 Feb 15th, 2005



PRESCRIBED FIRE BURN UNITS

Victoria Park Prescribed Fire Burn Units



Legend

- Burn Unit Boundary
- Preserve Area
- Initial Burn Area
- Wetlands
- Unit

2002 aerial imagery.tif

Burn Plan

UNIT	Last Burn	Next Burn
1		2008
2		2005
3	Fall 2001	2014
4	Fall 2001	2011

Victoria Park Prescribed Fire Burn Units

Map Prepared by Miller Legg & Associates, Inc;
Feb 15th, 2005

V:\Projects\2004\04-00225\PDF\Initial_Burn.pdf

0 500 1,000
Feet

1 inch equals 500 feet



TABLES

Table 1: Habitat Monitoring Observations at Transects 1-16 in the Scrub Jay/Tortoise Preserve 2005

Transect Number	Dominant Groundcover Species	Bare Ground Coverage	Leaf Litter	Scrub Oak Coverage (below 13ft)	Avg. Scrub Oak Height (below 13ft)	Scrub Oak Coverage (above 13ft)	Total Canopy Coverage	Dominant Canopy Species
1	<i>Serenoa repens</i> (6ft)	minimal	moderate	10%	8	15%	25%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>
2	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (3-5ft)	none	heavy	5%	3	60%	70%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>
3	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (1-4ft)	none	moderate	2%	8	0%	5%	<i>Pinus palustris</i>
4	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (3-6ft)	none	minimal	1%	4	0%	5%	<i>Quercus virginiana</i> , <i>Pinus palustris</i>
5	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (1-8ft)	none	moderate	0%	0	0%	2%	<i>Pinus palustris</i>
6	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (1-3ft)	moderate	moderate	40%	3	0%	0%	n/a
7	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (1-3ft)	none	moderate	0%	0	0%	5%	<i>Pinus palustris</i>
8	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (1-3ft)	none	moderate	1%	3	0%	0%	n/a
9	<i>Aristida stricta</i> , <i>Quercus</i> sp.	minimal	heavy	20%	3	30%	50%	<i>Quercus geminata</i> *, <i>Pinus palustris</i> , <i>Quercus laevis</i> , <i>Pinus clausa</i>
10	<i>Serenoa repens</i> (3-4ft), <i>Quercus</i> sp.	none	heavy	40%	2	70%	95%	<i>Quercus geminata</i> *, <i>Pinus palustris</i> , <i>Quercus laevis</i> , <i>Pinus clausa</i>
11	<i>Serenoa repens</i> (3ft), <i>Quercus</i> sp.	minimal	heavy	20%	4	30%	40%	<i>Quercus myrtifolia</i> *, <i>Lyonia ferruginea</i>
12	<i>Serenoa repens</i> , <i>Lyonia lucida</i> (3-6ft)	none	heavy	30%	3	40%	60%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>
13	<i>Serenoa repens</i> (2-3ft)	minimal	heavy	50%	4	0%	5%	<i>Pinus palustris</i>
14	<i>Serenoa repens</i> (3-4ft), <i>Quercus</i> sp.	minimal	heavy	80%	4	20%	35%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>
15	<i>Serenoa repens</i> (3-4ft), <i>Paspalum notatum</i>	minimal	heavy	10%	3	50%	70%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>
16	<i>Serenoa repens</i> (3-4ft), <i>Paspalum notatum</i>	minimal	heavy	50%	5	10%	20%	<i>Quercus geminata</i> *, <i>Pinus palustris</i>

* Scrub oak species measuring 13ft and above, providing canopy coverage.

Table 2: Scrub Jay Observations and Weather Conditions on Day 1 (3/9/05)

(1/2 day)

Date: 3/9/02Start Time: 12:30pmEnd Time: 4:30pmTemperature: 64 (Low) 70 (High)Wind Speed: 15-25 mph, W (direction)

Rainy Morning, Sunny and Clear after 11am

Station	N	E	S	W
A1	0	0	0	0
A2	0	0	0	0
A3	0	0	0	0
A4	0	0	0	0
B1	0	0	0	0
B2	0	0	0	0
B3	0	0	0	0
C1	0	0	0	0
C2	0	0	0	0
C3	0	0	0	0
D1	0	0	0	0
D2	0	0	0	0
D3	0	0	0	0
D4	0	0	0	0
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	0	0	0	0
F1	0	0	0	0
F2	0	0	0	0
F3	0	0	0	0
G1	0	0	0	0
G2	0	0	0	0
G3	0	0	0	0
H1	0	0	0	0
H2	0	0	0	0
H3	0	0	0	0
I1	0	0	0	0
I2	0	0	0	0
I3	0	0	0	0
J1	0	0	0	0
J2	0	0	0	0
J3	0	0	0	0

Station	N	E	S	W
K1				
K2				
K3				
L1				
L2				
L3				
L4				
M1				
M2				
M3				
M4				
M5				
N1				
N2				
O1				
O2				
O3				
O4				
P1				
P2				
P3				
Q1				
Q2				
R1				
R2				
R3				

Table 3: Scrub Jay Observations and Weather Conditions on Day 2 (3/10/05)
(full day)

Date: 3/10/05
Start Time: 8:45am
End Time: 4:30pm

Temperature: 47 (Low) 65 (High)
Wind Speed: 5-10 mph, W (direction)
Sunny and Visibility 100%

Station	N	E	S	W
A1	0	0	0	0
A2	0	0	0	0
A3	0	0	0	0
A4	0	0	0	0
B1	0	0	0	0
B2	0	0	0	0
B3	0	0	0	0
C1	0	0	0	0
C2	0	0	0	0
C3	0	0	0	0
D1				
D2				
D3				
D4				
E1				
E2				
E3				
E4				
F1				
F2				
F3				
G1				
G2				
G3				
H1	0	0	0	0
H2	0	0	0	0
H3	0	0	0	0
I1	0	0	0	0
I2	0	0	0	0
I3	0	0	0	0
J1	0	0	0	0
J2	0	0	0	0
J3	0	0	0	0

Station	N	E	S	W
K1	0	0	0	0
K2	0	0	0	0
K3	0	0	0	0
L1	0	0	0	0
L2	0	0	0	0
L3	0	0	3	0
L4	0	0	0	0
M1	0	0	0	0
M2	0	0	0	0
M3	0	0	0	0
M4	0	0	0	0
M5	0	0	0	0
N1	0	0	0	0
N2	0	0	0	0
O1	0	0	0	0
O2	0	0	0	0
O3	0	0	0	0
O4	0	0	0	0
P1	0	0	0	0
P2	0	0	0	0
P3	0	0	0	0
Q1	0	0	0	0
Q2	0	0	0	0
R1	0	0	0	0
R2	0	0	0	0
R3	0	0	0	0

11:00 AM

Table 4: Scrub Jay Observations and Weather Conditions on Day 3 (3/11/05)
(full day)

Date: 3/11/05
Start Time: 8:30am
End Time: 4:15pm

Temperature: 43 (Low) 73 (High)
Wind Speed: 10-20 mph, W (direction)
Sunny and Visibility 100%

Station	N	E	S	W
A1	0	0	0	0
A2	0	0	0	0
A3	0	0	0	0
A4	0	0	0	0
B1	0	0	0	0
B2	0	0	0	0
B3	0	0	0	0
C1	0	0	0	0
C2	0	0	0	0
C3	0	0	0	0
D1	0	0	0	0
D2	0	0	0	0
D3	0	0	0	0
D4	0	0	0	0
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	0	0	0	0
F1	0	0	0	0
F2	0	0	0	0
F3	0	0	0	0
G1	0	0	0	0
G2	0	0	0	0
G3	0	0	0	0
H1	0	0	0	0
H2	0	0	0	0
H3	0	0	0	0
I1	0	0	0	0
I2	0	0	0	0
I3	0	0	0	0
J1	0	0	0	0
J2	0	0	0	0
J3	0	0	0	0

Station	N	E	S	W
K1	0	0	0	0
K2	0	0	0	0
K3	0	0	0	0
L1	0	0	0	0
L2	0	0	0	0
L3	0	0	0	0
L4	0	0	0	0
M1	0	0	0	0
M2	0	0	0	0
M3	0	0	0	0
M4	0	0	0	0
M5	0	0	0	0
N1	0	0	0	0
N2	0	0	0	0
O1	0	0	0	0
O2	0	0	0	0
O3	0	0	0	0
O4	0	0	0	0
P1	0	0	0	0
P2	0	0	0	0
P3	0	0	0	0
Q1	0	0	0	0
Q2	0	0	0	0
R1	0	0	0	0
R2	0	0	0	0
R3	0	0	0	0

Table 5: Scrub Jay Observations and Weather Conditions on Day 4 (3/14/05)

(1/2 day)

Date: 3/14/05

Start Time: 8:30am

End Time: 11:30pm

Temperature: 65 (Low) 78 (High)

Wind Speed: 10-15 mph, SW (direction)

Partly Cloudy, Rainy after 12:00pm

Station	N	E	S	W
A1				
A2				
A3				
A4				
B1				
B2				
B3				
C1				
C2				
C3				
D1	0	0	0	0
D2	0	0	0	0
D3	0	0	0	0
D4	0	0	0	0
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	0	0	0	0
F1	0	0	0	0
F2	0	0	0	0
F3	0	0	0	0
G1	0	0	0	0
G2	0	0	0	0
G3	0	0	0	0
H1	0	0	0	0
H2	0	0	0	0
H3	0	0	0	0
I1	0	0	0	0
I2	0	0	0	0
I3	0	0	0	0
J1	0	0	0	0
J2	0	0	0	0
J3	0	0	0	0

Station	N	E	S	W
K1	0	0	0	0
K2	0	0	0	0
K3	0	0	0	0
L1	0	0	0	0
L2	0	0	0	0
L3	0	0	0	0
L4	0	0	0	0
M1				
M2				
M3				
M4				
M5				
N1				
N2				
O1				
O2				
O3				
O4				
P1				
P2				
P3				
Q1				
Q2				
R1				
R2				
R3				

Burning of wood piles East of Transects L and K

Table 6: Scrub Jay Observations and Weather Conditions on Day 5 (3/15/05)
(full day)

Date: 3/15/05
Start Time: 7:30am
End Time: 3:30pm

Temperature: 61 (Low) 69 (High)
Wind Speed: 0-10 mph, ESE (direction)
Overcast

Station	N	E	S	W
A1	0	0	0	0
A2	0	0	0	0
A3	0	0	0	0
A4	0	0	0	0
B1	0	0	0	0
B2	0	0	0	0
B3	0	0	0	0
C1	0	0	0	0
C2	0	0	0	0
C3	0	0	0	0
D1	0	0	0	0
D2	0	0	0	0
D3	0	0	0	0
D4	0	0	0	0
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	0	0	0	0
F1	0	0	0	0
F2	0	0	0	0
F3	0	0	0	0
G1	0	0	0	0
G2	0	0	0	0
G3	0	0	0	0
H1	0	0	0	0
H2	0	0	0	0
H3	0	0	0	0
I1	0	0	0	0
I2	0	0	0	0
I3	0	0	0	0
J1	0	0	0	0
J2	0	0	0	0
J3	0	0	0	0

Station	N	E	S	W
K1	0	0	0	0
K2	0	0	0	0
K3	0	0	0	0
L1	0	0	0	0
L2	0	0	0	0
L3	0	0	0	0
L4	0	0	0	0
M1	0	0	0	0
M2	0	0	0	0
M3	0	0	0	0
M4	0	0	0	0
M5	0	0	0	0
N1	0	0	0	0
N2	0	0	0	0
O1	0	0	0	0
O2	0	0	0	0
O3	0	0	0	0
O4	0	0	0	0
P1	0	0	0	0
P2	0	0	0	0
P3	0	0	0	0
Q1	0	0	0	0
Q2	0	0	0	0
R1	0	0	0	0
R2	0	0	0	0
R3	0	0	0	0

Burning of wood piles E of Transects L and K

Table 7: Scrub Jay Observations and Weather Conditions on Day 6 (3/29/05)

(full day)

Date: 3/29/05Start Time: 8:00 amEnd Time: 4:15 pmTemperature: 68 (Low) 81 (High)Wind Speed: 5 - 10 mph, S (direction)

Sunny

Station	N	E	S	W
A1	0	0	0	0
A2	0	0	0	0
A3	0	0	0	0
A4	0	0	0	0
B1	0	0	0	0
B2	0	0	0	0
B3	0	0	0	0
C1	0	0	0	0
C2	0	0	0	0
C3	0	0	0	0
D1	0	0	0	0
D2	0	0	0	0
D3	0	0	0	0
D4	0	0	0	0
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	0	0	0	0
F1	0	0	0	0
F2	0	0	0	0
F3	0	0	0	0
G1	0	0	0	0
G2	0	0	0	0
G3	0	0	0	0
H1				
H2				
H3				
I1				
I2				
I3				
J1				
J2				
J3				

Station	N	E	S	W
K1	0	0	0	0
K2	0	0	0	0
K3	3	0	0	0
L1	0	0	0	0
L2	0	0	0	0
L3	0	0	3	0
L4	0	0	0	0
M1	0	0	0	0
M2	0	0	0	0
M3	0	0	0	0
M4	0	0	0	0
M5	0	0	0	0
N1	0	0	0	0
N2	0	0	0	0
O1	0	0	0	0
O2	0	0	0	0
O3	0	0	0	0
O4	0	0	0	0
P1	0	0	0	0
P2	0	0	0	0
P3	0	0	0	0
Q1	0	0	0	0
Q2	0	0	0	0
R1	0	0	0	0
R2	0	0	0	0
R3	0	0	0	0

8:55 AM

8:40 AM

PHOTOGRAPHS



Photo 1: Transect 1 (Facing South)



Photo 2: Transect 2 (Facing West)



Photo 3: Transect 3 (Facing South)



Photo 4: Transect 4 (Facing West)



Photo 5: Transect 5 (Facing North)



Photo 6: Transect 6 (Facing East)



Photo 7: Transect 7 (Facing West)



Photo 8: Transect 8 (Facing East)



Photo 9: Transect 9 (Facing North)



Photo 10: Transect 10 (Facing South)



Photo 11: Transect 11 (Facing East)



Photo 12: Transect 12 (Facing South)



Photo 13: Transect 13 (Facing South)



Photo 14: Transect 14 (Facing South)



Photo 15: Transect 15 (Facing West)



Photo 16: Transect 16 (Facing East)

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