



December 2, 2014

BOARD OF DIRECTORS

PETER H. CONZE, JR.
President

LEONARD SUCSY
Vice President and Treasurer

GEORGE F. MACLEAN
Vice President and Secretary

DAVID A. BERENSON

GEORGE H. SHATTUCK, JR.

MERRILL S. SNYDER

ADVISORY BOARD

LLOYD L. BRUMFIELD

MAGGY HURCHALLA

WILLIAM L.G. LESTER

RUTH C. MEAD

DONNA S. MELZER

CHARLES G. PATTISON

NATHANIEL P. REED

F. ANTHONY ZUNINO

FOUNDER

BERNHARD M. AUER

Mr. John Winkle
Federal Railway Administration
1200 New Jersey Ave. SE, Room W38-311
Washington D.C. 20590
Subject: All Aboard Florida, Draft Environmental Impact Statement

Dear Mr. Winkle:

Please accept for consideration these comments regarding ecological components of the Draft EIS, which are provided on behalf of the Guardians of Martin County, a non-profit environmental conservation organization based in Martin County.

Our review of the DEIS and its appendices has revealed that, in spite of its heft, the DEIS is shockingly lacking in details regarding ecological impacts. The DEIS relies heavily on desk-top analyses and, in its current state, provides insufficient information on the extent of impacts on terrestrial and aquatic ecosystems and the federally-listed and state-listed flora and fauna which inhabit them. Perhaps the detail is lacking due to the DEIS being written at the time when engineering and construction plans were at the 30% design stage, but significantly more detail is warranted before the full impacts of the project can be determined. Areas of concern which are described in greater detail in the attached explanation, include:

- Impacts on threatened and endangered species and their habitats, including publicly-owned conservation lands;
- The inadequacy of the Alternatives Analysis;
- Impacts on wetlands, rivers and navigation; and
- Consistency with Martin County's Comprehensive Growth Management Plan

The inadequacies and inaccuracies in the DEIS must be addressed before the project can be evaluated.

♦ PROTECTING THE MARTIN COUNTY DIFFERENCE SINCE 2003 ♦

THEGUARDIANSOFMARTINCOUNTY.COM and SAVEMARTINNOW.COM

P.O. Box 1489, Hobe Sound, FL 33475 | (772) 546-7480

A COPY OF THE OFFICIAL REGISTRATION AND FINANCIAL INFORMATION MAY BE OBTAINED FROM THE DIVISION OF CONSUMER SERVICES BY CALLING 1-800-435-7352 WITHIN THE STATE. REGISTRATION DOES NOT IMPLY ENDORSEMENT, APPROVAL OR RECOMMENDATION BY THE STATE.

© 2013 THE GUARDIANS OF MARTIN COUNTY, A NOT-FOR-PROFIT 501(c)3 ENTITY.

REGISTRATION# CH30115

The Guardians of Martin County request that a second draft of the EIS be developed and published for public review and comment after comments on the DEIS are received and reviewed and updates made after the 90% design plans are integrated into the DEIS.

Thank you for your consideration, and please feel free to contact me if you or your staff have any questions regarding the information and details provided.

Sincerely,

Greg Braun

D. Greg Braun
Certified Environmental Professional
Registration # 03040418
Science Advisor to the Guardians of Martin County

cc: Anthony.Foxx@dot.gov
AAF_comments@vhb.com
John.Winkle@dot.gov
Andrew.W.Phillips@usace.army.mil
David.Keys@noaa.gov
Evelyn.Smart@uscg.mil
Allan.Nagy@faa.gov
James.Christian@dot.gov
Benito.Cunill@dot.gov
Gavin.Jamesg@epa.gov
Mueller.Heinz@epa.gov
John_Wrublik@fws.gov
Charles_Kelso@fws.gov
CongressmanPatrick.Murphy@mail.house.gov
Bill@BillNelson.senate.gov
Rick.Scott@eog.myflorida.com
Negron.Joe.web@flsenate.gov
GHarrell@GayleHarrell.com
MaryLynn.Magar@myfloridahouse.gov

**Comments by the Guardians of Martin County on ecological components of the
Draft Environmental Impact Statement for the
All Aboard Florida Passenger Rail Project**

December 2, 2014

1.0 General Comments on the DEIS and Process

The Guardians of Martin County recognize the need to have a thorough, complete and independently-produced Environmental Impact Statement to serve as the basis for determining the environmental impact of any project. Our review of the DEIS for the All Aboard Florida passenger rail project is that, in spite of its length, it is deficient in providing detailed assessment of existing conditions and is inadequate in determining the impacts of the proposed project.

In the following pages, numerous examples are provided of specific circumstances in which we have first-hand knowledge that far exceeds the information provided in the DEIS. Based on the gap between our knowledge of the local environment and the information that is presented in the DEIS, we can only assume that similar deficiencies exist for other counties through which the proposed project traverse. The following comments should therefore be taken as examples of the need to make wholesale and thorough updates to the DEIS.

It appears that the combination of the DEIS being written to 30% complete design plans and the analyses being primarily desk-top investigations have led to the release of a DEIS that lacks the detail necessary to accurately determine the impacts of the proposed project. We request that, upon completion of the current public comment period, the development of 90% complete design and the review of comments on the DEIS, a second draft of the EIS be developed and released for public review and comment. The current deficiencies are too far-ranging to allow for an accurate accounting of compliance with NEPA.

2.0 Impacts on Threatened Species, Endangered Species, and their Habitats

2.1 Flora

Over 50 plant species that are designated by the federal government and/or the State of Florida as Endangered or Threatened are documented to occur in Martin County (Table 2). Many of these occur in the scrub, scrubby flatwoods and wetlands habitats that exist along the existing FEC rail corridor. Detailed field surveys and mapping of listed endangered and threatened plant species is warranted due to the presence of existing native vegetative communities located within the existing rail corridor that is proposed to be widened.

The presence of the existing FEC railway presents a key issue in the management of several parcels of publicly-owned conservation lands in the Treasure Coast area, most notably Jonathan Dickinson State Park, Hobe Sound National Wildlife Refuge and the Savannas Preserve State Park. With the acknowledgment that ecosystems in Florida have evolved as the direct result of natural disasters, including fire and hurricanes, in general, land managers of these properties have done an excellent job in managing their acreage with the thoughtful use of fire as a management tool. Many individual endangered and threatened plants succumb to shading and competition from other species if land is protected from fire.

From 2010 through 2012, the Florida Department of Environmental Protection went through an intensive process to update the management plan for Jonathan Dickinson State Park (JDSP), culminating in the adoption of the updated plan in June 2012. A copy of the approved plan can be accessed at:

<http://www.dep.state.fl.us/parks/planning/parkplans/JonathanDickinsonStatePark.pdf>

The updated plan includes descriptions of notable flora and fauna, including threatened and endangered species. In recognition of the requirement to manage upland ecosystems using fire, the management plan separates the 11,000-acre property into approximately 100 management units and designates those units that are to be managed with fire (See Mgmt. Plan Table 1).

Because the existing single-rail FEC railway presently bisects Jonathan Dickinson and provides only one at-grade crossing, many of the management units necessarily abut the rail corridor. Smoke management is a key feature in applying fire as a management technique, and the presence of the existing railway at its present level of use already affects the ability of land managers to perform their duties.

A substantive omission in the DEIS is the lack of attention on the extent to which the proposed passenger rail project, with its 32 high-speed passages per day through the park will affect the ability of managers of conservation lands to continue to manage their properties with fire. Any reduction/restriction in the use of fire will adversely affect the populations of numerous fire-dependent threatened and endangered species. Considerable attention should be expended in the EIS in accurately identifying potential impacts and mitigating them to the greatest extent possible.

Because this omission has occurred in the DEIS at a property as substantial as 11,000-acre Jonathan Dickinson State Park, it appears that this issue has also not been addressed at other conservation lands through which the proposed passenger rail project traverses (e.g., Savannas Preserve State Park). The EIS should be revised to appropriately address the potential impacts of the project on land management activities at JDSP, the Savannas and all other public conservation lands through which it traverses.

A generalized fire management memorandum of understanding should be developed and used as template in coordinating with the owners/managers of conservation lands through which the rail corridor traverses.

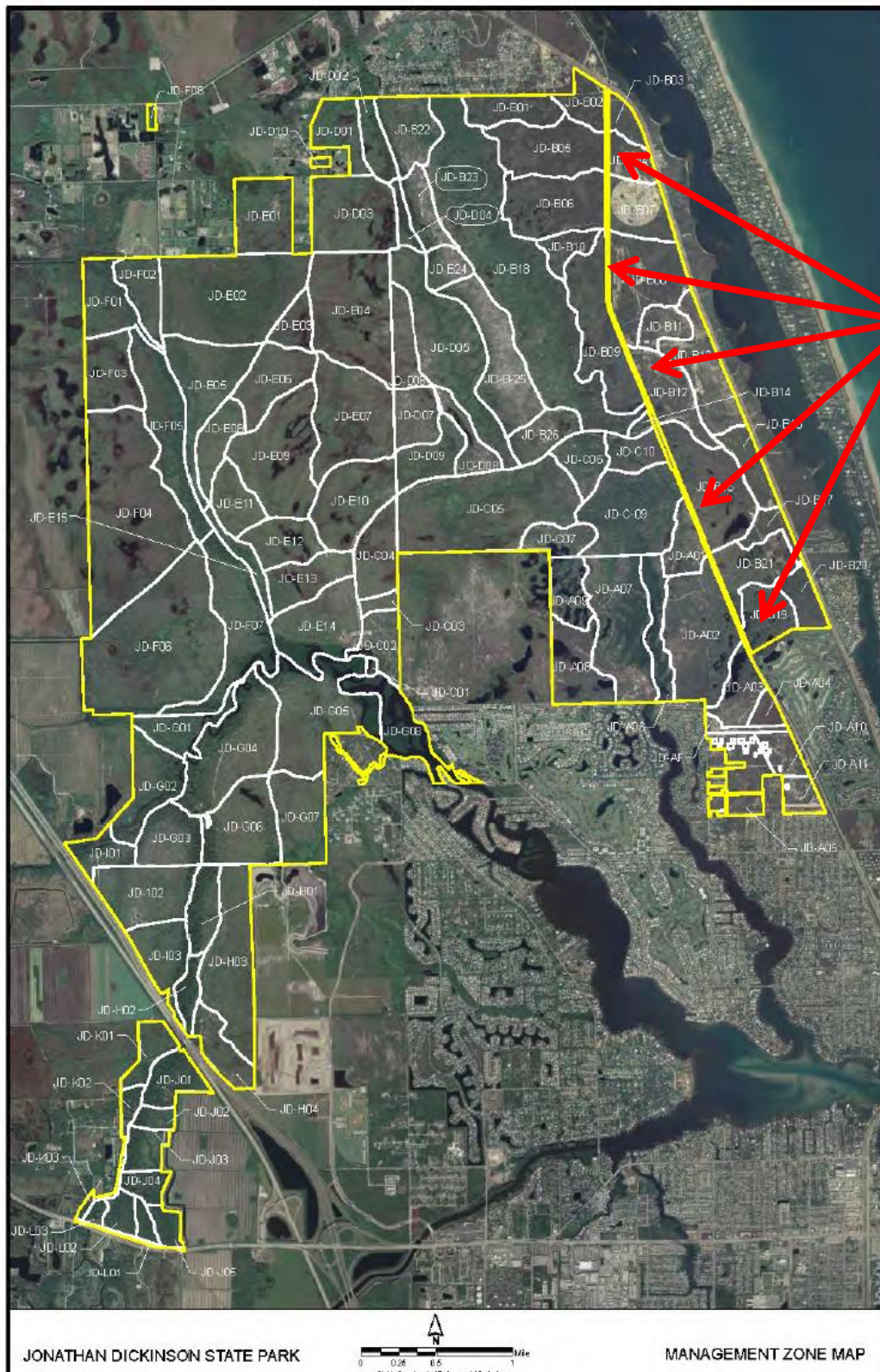


Figure 1: Jonathan Dickinson State Park Management Zone Map

Source: Jonathan Dickinson State Park Land Management Plan

Another example of the inadequacy of the DEIS analysis on ecological issues is its lack of attention to plant species such as the Perforate Reindeer Lichen (*Cladonia perforata*), a federally-listed endangered plant species whose presence was given scant mention in the DEIS. This species, which was designated by the federal government as Endangered in 1993, is merely mentioned in Section 5 – Environmental Consequences (P 5-114 “found adjacent to the railroad corridor”) and Table 4.3.6-3. In reality, the total world-wide population of this federally-designated Endangered Species is restricted to a few highly fragmented populations in four counties in Florida. Because the DEIS acknowledges that the majority of the work on ecological issues was a “desk-top assessment”, the extent to which populations of this species are being affected by the existing FEC railway, and the extent to which double-tracking, triple-tracking and the increased frequency of use might effect this species is entirely unknown.

The DEIS is similarly deficient in its lack of detail regarding the proximity of the existing rail corridor to individual *Asimina tetramera* plants, another federally-designated endangered plant species that is known to be present in the scrub community. The entire worldwide in-situ population of this species is restricted to Paola sand substrate in Martin and Palm Beach Counties, through which the rail project traverses. An accurate determination of the potential impact of the proposed rail project on this species cannot be determined based on the limited data provided in the DEIS. Issues regarding the abundance of this species, its spatial distribution in relation to the rail corridor, the effect of the proposed project on its pollinators and the extent to which the proposed rail project will affect movement of the fruits/seeds by the wildlife that consumes it, are examples of the level of detail that must be identified and addressed in the EIS in order to determine the potential impact on this endangered species.

Similarly, the DEIS provides insufficient information regarding the presence, abundance, spatial distribution and potential impacts on *Acanthocereus tetragonus*, the triangle cactus, a state-listed threatened species which is known to be present in close proximity to the existing FEC corridor in the Savannas Preserve State Park (a 5,400 acre facility that is not even mentioned in Section 4.3.5.2. regarding Preserves, Wildlife Sanctuaries and Wildlife Corridors). Neglecting to include a conservation parcel that extends for approximately 10 miles from Jensen Beach to Fort Pierce, and through which the existing railway traverses, provides insight into the lack of thoroughness in the DEIS. In a situation that parallels the inadequacies of the DEIS in dealing with scrub management in JDSP, it is apparent that authors of the DEIS failed to consult managers at the Savannas and/or to familiarize themselves with the content of the approved management plan for this conservation property.

Detailed field surveys are warranted for all federally-listed and state-listed threatened and endangered species that occur in the vicinity of the proposed project – without the results of these surveys, potential impacts cannot be accurately identified, site-specific avoidance and mitigation alternatives cannot be identified and appropriate monitoring protocols cannot be established.

2.2 Fauna

A related oversight in the DEIS is the lack of thorough treatment of the potential impacts of the proposed rail project on scrub-dependent animal species, including Florida Scrub-jays, gopher tortoises and gopher frogs.

The information contained in Appendix 4-3 indicates that desktop and field surveys have been conducted for some species (e.g., scrub-jays). The DEIS fails, however, to identify the extent to which the proposed project will affect this species, other than saying that the US Fish and Wildlife Service has been convinced by AAF representatives that the project will not adversely affect them. Detailed surveys for Scrub-jays that have been conducted at Jonathan Dickinson State Park at a substantially higher level of intensity than those that were done by AAF's consultant clearly show that the existing FEC railway bisects the home range territory of several families of scrub-jays at JDSP (Figure 2).

Failure to analyze the extent to which adding additional lanes of track and/or adding 32 high-speed train passages per day through an individual jay clan's territory renders the Environmental Impact un-supportable by facts and inconsistent with the intent and goals of the National Environmental Policy Act.

The DEIS includes information that scrub-jays responded to play-back calls by flying across the existing railway corridor and that the approach of an on-coming train caused scrub-jays to take evasive action. The DEIS fails to identify and evaluate the extent to which the increase in frequency of use of the railway, the potential double-tracking and/or triple tracking through JDSP and the approach of high-speed trains will affect scrub jays. It is suspected that construction and operation of the proposed project will result in reduced scrub-jay nest productivity and potential abandonment of some home range territories in JDSP, but the absence of detail in the DEIS prevents the potential impacts on this species from being fully known.

Simultaneously, the DEIS is deficient in its treatment of Scrub-jays in the vicinity of Seabranh Preserve State Park in east-central Martin County. Scrub-jays were documented by state park biologists to occur at Seabranh during surveys in 2014, and it is likely that the home-range territory of the jays at Seabranh includes the golf course at Mariner Sands, a residential golf-course community which is located to the west of the existing FEC rail corridor. The extent to which the proposed project will create a barrier to scrub-jay movement between Seabranh and Mariner Sands cannot be determined based on the total absence of information on this topic in the DEIS.

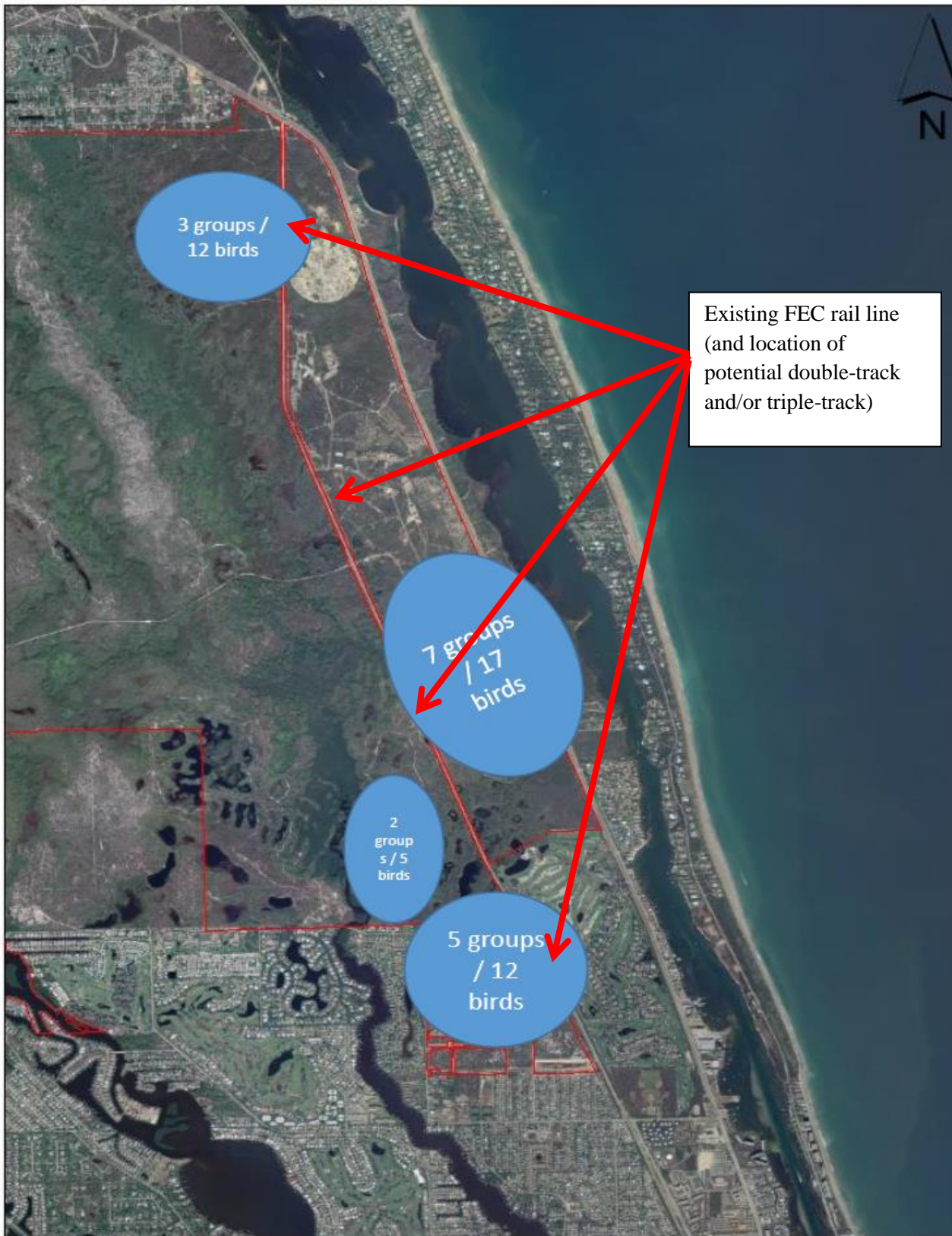


Figure 2 – Results of 2014 Scrub-jay surveys at Jonathan Dickinson State Park

Base map source: Florida Department of Environmental Protection; rail location identified for clarity

The results of detailed scrub-jay surveys are available for conservation lands in addition to JDSP and Seabranck Preserve State park (e.g., Savannas Preserve State Park, preserves in Indian River County). Prior to release of the final EIS, comprehensive scrub-jay data must be obtained and analyzed in order to accurately assess impacts, identify potential avoidance and minimization techniques (e.g., reduced train speeds where jay territories are traversed). Only after these steps are completed can site-appropriate monitoring protocols be identified.

Gopher Tortoises and their Commensals

The DEIS is similarly unacceptably deficient in its presentation and discussion of gopher tortoises, a reptile that is designated by the State of Florida as a threatened species. Without field surveys for this species having been conducted, the magnitude of potential impact of the proposed project on this species is unclear. The DEIS does not even provide an order of magnitude estimate of numbers of this species that will be affected – dozens, hundreds, or thousands along the full route of the proposed project?

The obvious need for this type of information is in order to accurately determine the locations, frequency, placement and design of wildlife crossings. The absence of data in this regard has resulted in the preposterous determination that no wildlife crossings are proposed or warranted anywhere along the 195-mile north-south stretch of proposed project.

The existing FEC rail corridor presently poses an obstacle to the movement of gopher tortoises and other species, most notably in areas where the railway bisects conservation properties. To eliminate or reduce railway-related mortality of gopher tortoises and other wildlife, wildlife underpasses and/or crossings are necessary. Numerous studies have shown the effectiveness of wildlife underpasses in preventing wildlife mortality and allowing movement of wildlife across transportation corridors. The locations, sizes, frequency and design of both the crossings and any necessary exclusionary fencing can only be determined after thorough wildlife surveys have been conducted. Upon completion of detailed wildlife surveys, revised plans that show the locations and design specifications of wildlife crossings and exclusionary fencing and/or other mortality-reducing alternatives should be provided, analyzed in the EIS and opened for public review and comment.

The burrows of gopher tortoises are well-known for the habitat they provide for a myriad of other wildlife, including federally-listed species (e.g., indigo snakes), state-listed species (e.g., gopher frogs) and non-listed species (e.g., opossums). Failure of the DEIS to accurately assess the impact of the project on gopher tortoises necessarily results in the failure to accurately assess the potential impact of the project on commensals. Application of the Eastern Indigo Snake key to determine the degree of effect is inappropriate until more thorough wildlife surveys, habitat mapping and wildlife hazard mitigation options are identified and evaluated. Analysis of impacts on gopher frogs is particularly warranted in conservation areas where the existing rail corridor separates seasonally-used habitats (i.e., posing a potentially fatal obstacle for the movement of gopher frogs from dry-season habitat in tortoise burrows to rainy-season ponds and wetlands).

The descriptions above highlight specific examples in which the DEIS is woefully deficient and inadequate in the level of detail that is needed in order to accurately assess the ecological impacts of the proposed project. The same lack of detail is apparent in the treatment of several other federally-listed and state-listed threatened and endangered species. The final EIS should not be produced and available for public comment until 90% complete engineering design plans and thorough field surveys for listed species have been completed.

3.0 Inadequacy of the Alternatives Analysis

The level of detail provided for the various east-west alternatives is warranted for several alternate north-south routes. Minor variations in the comparatively short east-west leg do not constitute acceptable alternative alignments for the project. The descriptions of the screening processes appear to have been contrived in order to creatively dismiss the need to fully evaluate other options that could be feasible. Options that should be fully evaluated include:

- Co-location within the existing I-95 and Turnpike corridors, including, if necessary, options for elevated service to prevent at-grade crossings;
- Co-location within the existing 500 kV aerial electrical utility corridor from Martin County to near Orlando International Airport; and
- The existing interior-Florida CSX railway which avoids urban east-coast communities from Martin through Brevard Counties.

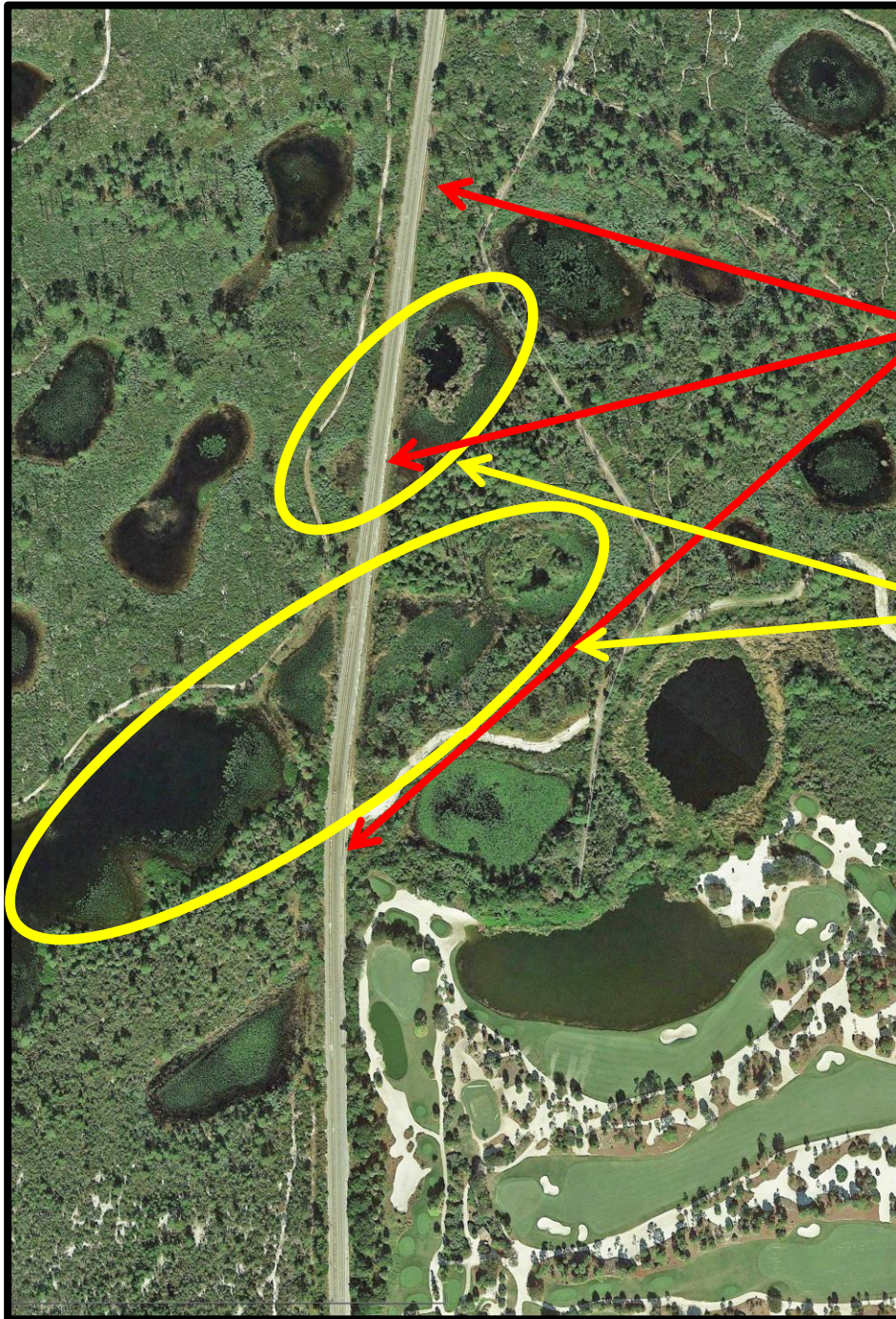
4.0 Impacts on Wetlands, Rivers and Navigation

The Guardians are concerned that the DEIS inadequately addresses avoidance, minimization and mitigation for impacts to wetlands, rivers and navigation.

While the attempt to develop a DEIS in response to 30% complete design plans may have been a creative way to jump-start the agency review process, in actuality, doing so has revealed the inadequacies that are inherently associated with identifying impacts of a moving target.

Specific examples are the lack of adequate detail related to the impacts to wetlands and threatened and endangered species of double-tracking and potentially triple tracking portions of the existing railway and unknowns regarding “smoothing out” curves that may be too sharp to safely transit at high speeds. The DEIS is unclear, and personal communication with an AAF representative at the “open house” hearing failed to clarify the extent to which the construction of additional tracks within the existing railway corridor would require fill into wetlands at locations where the existing railway was built on/over wetlands.

One specific example of this situation is provided in Figure 3. At the location shown in southern Martin County, the existing FEC railway corridor was laid out and built in such a way that it traverses several previously-existing wetlands.



Existing FEC rail line (and location of potential additional tracks)

Wetlands that have already been adversely affected by the construction and operation of the existing rail corridor.

Because the existing wetlands about the rail corridor, any widening or addition of tracks would likely impact wetlands, an issue that is not addressed in the DEIS or Corps of Engineers application.

Without regard to the extent that additional wetlands might be impacted, detailed analyses & corrective action is warranted at locations where natural hydrologic conditions have been adversely affected.

Base Map: Results of 2014 Jaywatch Monitoring for Scrub Jays at Jonathan Dickinson State Park

Source: Florida Department of Environmental Protection

Location of existing railway identified for clarity and relevance

Although the width of the railway corridor at this location is unclear based on the information contained in the DEIS, this location is one example of many along the route where wetlands abut the rail corridor on both sides. Details should be provided in the EIS that show the extent to which there will be land clearing and/or impacts to wetlands at locations where additional tracking (i.e., double-tracking, triple tracking and/or sidings) is proposed.

Regardless of the extent to which the proposed project will result in new impacts to wetlands, sufficient engineering and hydrological analyses are necessary to determine the locations where the existing railway corridor has adversely affected localized hydrologic conditions. Rather than buying mitigation credits at some remote wetland mitigation bank, wetland mitigation should be conducted at locations along the route in order to offset unavoidable impacts.

Water quality in the Indian River Lagoon (IRL) has deteriorated as a direct result of human-related impacts. Much of the AAF route is within the IRL watershed, but the location of the wetlands bank that would be used for mitigation is not revealed in the DEIS. FRA and the Corps should require that all wetland mitigation for the AAF project be performed within the same drainage basins as the wetland impacts. Impacting wetlands within the IRL watershed and mitigating those losses by purchasing wetland mitigation credits outside the IRL drainage basin leaves the IRL with a net adverse impact.

Impacts on rivers and navigation

The Guardians of Martin County are concerned that the DEIS inadequately addresses potential impacts on rivers and navigation. Various studies have shown that train noise and vibration have effects outside of railway corridors. The DEIS fails to evaluate the extent of adverse impacts on aquatic biota, such as the extent to which the life cycles of aquatic organisms will be altered by the passage of 32 high-speed passenger trains and the anticipated increase in freight trains.

The DEIS also fails to provide information regarding hurricane/emergency preparedness and evacuation plans. The simulation provided at the DEIS hearing regarding the movement of vessels surrounding bridge openings is not based on actual conditions. The Okeechobee Waterway is a key navigational pathway for cross-Florida vessel movement and for residents of eastern Martin County who prepare for hurricanes by moving their vessels to narrow creeks located west of the FEC railway bridge that spans over the St. Lucie River. The age of that span, coupled with its low vertical clearance, and narrow navigation pathway all point to that location being a critical navigation bottleneck, particularly during periods of high winds, when the bridge may need to be in the down position due to safety concerns.

5.0 Consistency with Martin County's Comprehensive Plan

A key element in education and advocacy of the Guardians of Martin County is support for Martin County's Comprehensive Growth Management Plan (CGMP or "Comp Plan").

The County has adopted two Policies that are directly related to providing passenger rail service options for its residents. Specifically:

Policy 5.5E.2. Encourage passenger rail service. The County should encourage passenger rail service to Indiantown and Stuart, including Amtrak and Tri-rail, and shall explore all possible financial and political means to implement this policy.

Policy 5.5E.3. Encourage commuter and inter-city rail. The County shall continue to participate with state, regional and local agencies to encourage the establishment of commuter rail and intercity travel in Martin County.

It is unfortunate that AAF has proposed a project that is not consistent with either of these Comp Plan policies. As with other Treasure Coast counties, the AAF proposal results in a myriad of adverse impacts (i.e., ecological, social, financial, navigational, etc.) and no tangible benefits.

6.0 Corrective Actions Recommended

To transform the project into an initiative that could possibly be embraced by The Guardians and the community as an amenity, the following actions are recommended:

- 1) Re-negotiation of the right-of-way agreements to ensure that tax-payer funds are not used to benefit the private, for-profit rail business;
- 2) Conducting detailed floral and faunal studies and mitigating unavoidable impacts through the installation of wildlife crossings and underpasses to result in no net adverse ecological impacts;
- 3) Siting, constructing and operating a community-friendly depot at a suitable location where Martin County residents have access to scheduled commuter rail service to Orlando, West Palm Beach, Ft Lauderdale and Miami; and
- 4) Implementing replacement or improvements to the railway bridge over the St. Lucie River to prevent it from becoming a critical bottleneck for navigation and evacuation.

In its current version, the DEIS does not meet NEPA requirements and is too lacking in details for ecological impacts to be accurately identified and mitigated.

Endangered and Threatened Plant Species found in Martin County, FL

Scientific Name	Common Name	Status
<i>Acanthocereus tetragonus</i>	TRIANGLE CACTUS; DILDOE CACTUS; BARBED-WIRE CACTUS	FL - Threatened
<i>Argusia gnaphalodes</i>	SEA ROSEMARY; SEA LAVENDER	FL - Endangered
<i>Asclepias curtisii</i>	CURTISS' MILKWEED	FL - Endangered
<i>Asimina tetramera</i>	FOURPETAL PAWPAW	US & FL - Endangered
<i>Bletia purpurea</i>	PINEPINK	FL - Threatened
<i>Calopogon multiflorus</i>	MANYFLOWERED GRASSPINK	FL - Threatened
<i>Chamaesyce cumulicola</i>	COASTAL DUNE SANDMAT; SAND DUNE SPURGE	FL - Endangered
<i>Chrysophyllum oliviforme</i>	SATINLEAF	FL - Threatened
<i>Coelorachis tuberculosa</i>	PIEDMONT JOINTGRASS	FL - Threatened
<i>Conradina grandiflora</i>	LARGEFLOWER FALSE ROSEMARY	FL - Threatened
<i>Cyperus pedunculatus</i>	BEACHSTAR	FL - Endangered
<i>Drypetes lateriflora</i>	GUIANA PLUM	FL - Threatened
<i>Epidendrum anceps</i>	DINGY-FLOWERED STAR ORCHID; DINGY-FLOWERED EPIDENDRUM	FL - Endangered
<i>Epidendrum nocturnum</i>	NIGHT-SCENTED ORCHID; NIGHT-SCENTED EPIDENDRUM	FL - Endangered
<i>Erithalis fruticosa</i>	BLACKTORCH	FL - Threatened
<i>Eugenia confusa</i>	REDBERRY STOPPER; REDBERRY EUGENIA	FL - Endangered
<i>Glandularia maritima</i>	COASTAL MOCK VERVAIN	FL - Endangered
<i>Habenaria nivea</i>	SNOWY ORCHID	FL - Threatened
<i>Halophila johnsonii</i>	JOHNSON'S SEAGRASS	US - Threatened
<i>Jacquemontia curtisii</i>	PINELAND JACQUEMONTIA	FL - Threatened
<i>Jacquemontia reclinata</i>	BEACH CLUSTERVINE; BEACH JACQ	US & FL - Endangerec
<i>Lechea divaricata</i>	DRYSAND PINWEED; SPREADING PINWEED	FL - Endangered
<i>Lilium catesbaei</i>	CATESBY'S LILY; PINE LILY	FL - Threatened
<i>Myrcianthes fragrans</i>	TWINBERRY; SIMPSON'S STOPPER	FL - Threatened
<i>Nemastylis floridana</i>	CELESTIAL LILY; FALLFLOWERING IXIA	FL - Endangered
<i>Nephrolepis biserrata</i>	GIANT SWORD FERN	FL - Threatened
<i>Ophioglossum palmatum</i>	HAND FERN	FL - Endangered
<i>Panicum abscissum</i>	CUTTHROATGRASS	FL - Endangered

Endangered and Threatened Plant Species found in Martin County, FL

<i>Pecluma dispersa</i>	WIDESPREAD POLYPODY; WIDESPREAD ROCKCAP FERN	FL - Endangered
<i>Pecluma plumula</i>	PLUME POLYPODY; PLUMED ROCKCAP FERN	FL - Endangered
<i>Pecluma ptilota</i> var. <i>bourgeauana</i>	COMB POLYPODY; SWAMP PLUME POLYPODY; PALMLEAF ROCKCAP FERN	FL - Endangered
<i>Peperomia humilis</i>	LOW PEPEROMIA	FL - Endangered
<i>Pinguicula caerulea</i>	BLUEFLOWER BUTTERWORT	FL - Threatened
<i>Pinguicula lutea</i>	FLOWERED BUTTERWORT	FL - Threatened
<i>Pithecellobium keyense</i>	FLORIDA KEYS BLACKBEAD	FL - Threatened
<i>Pogonia ophioglossoides</i>	ORCHID	FL - Threatened
<i>Polygala smallii</i>	SMALL'S MILKWORT; TINY POLYGALA	FL - Endangered
<i>Polystachya concreta</i>	GREATER YELLOWSPIKE ORCHID; PALE-FLOWERED POLYSTACHYA	FL - Endangered
<i>Prosthechea boothiana</i> var. <i>erythronioides</i>	DOLLAR ORCHID	FL - Endangered
<i>Scaevola plumieri</i>	GULLFEED	FL - Threatened
<i>Spiranthes laciniata</i>	LACELIP LADIESTRESSES	FL - Threatened
<i>Spiranthes lucayana</i>	FLORIDA KEYS LADIESTRESSES; GRAY LADIESTRESSES; FT. GEORGE LADIESTRESSES	FL - Endangered
<i>Tectaria heracleifolia</i>	BROAD HALBERD FERN	FL - Threatened
<i>Thelypteris reticulata</i>	LATTICE-VEIN FERN	FL - Endangered
<i>Thelypteris serrata</i>	TOOTHED LATTICE-VEIN FERN; DENTATE LATTICE-VEIN FERN	FL - Endangered
<i>Tillandsia balbisiana</i>	NORTHERN NEEDLELEAF	FL - Threatened
<i>Tillandsia fasciculata</i>	CARDINAL AIRPLANT; COMMON WILD PINE; STIFF-LEAVED WILD PINE	FL - Endangered
<i>Tillandsia utriculata</i>	GIANT AIRPLANT; GIANT WILD PINE	FL - Endangered
<i>Tolumnia bahamensis</i>	VARIEGATED ORCHID; ANGELITA; DANCINGLADY ORCHID	FL - Endangered
<i>Vanilla mexicana</i>	MEXICAN VANILLA; FUCHS' VANILLA; UNSCENTED VANILLA	FL - Endangered
<i>Zephyranthes simpsonii</i>	SIMPSON'S ZEPHYRLILY	FL - Threatened