September 15, 2015

Mr. Javier Rodriguez, P.E.
Executive Director
Miami-Dade Expressway Authority

Dear Mr. Rodriguez,

I write on behalf of Center for Biological Diversity, Clean Water Action, Defenders of Wildlife, National Parks Conservation Association, Sierra Club Florida, Sierra Club Miami Chapter, Tropical Audubon Society, Urban Environment League, 1000 Friends of Florida and the hundreds of thousands of individual members in each of these groups to strongly urge the Miami-Dade Expressway Authority (“MDX”) to abandon planning for an extension of State Road 836 (“SR 836”) outside the Urban Development Boundary (“UDB”). Each of the currently proposed alternatives would extend SR 836 outside of the UDB and are inconsistent with the Comprehensive Everglades Restoration Plan (“CERP”), and with the Miami-Dade County’s Comprehensive Development Master Plan (“CDMP”). Furthermore, a thorough review of this project under the National Environmental Policy Act (“NEPA”), the Endangered Species Act (“ESA”), and the Clean Water Act (“CWA”) will show that any traffic benefits the project produces will be more than outweighed by the severe environmental impacts it will create. Further, the project will not solve the region’s traffic problem because it will exacerbate, rather than fix, the underlying cause of the congestion: poor land-use planning.

I. Executive Summary

MDX seeks to construct a project with benefits of providing “linkage between residential communities and businesses in southwest Miami-Dade with the urban center to the east…. [and to] enhance east-west mobility and relieve congestion on arterials and major roadways…” The currently proposed alternatives will exacerbate traffic congestion, increase development in the area, and decrease east-west mobility. A transit oriented alternative that is focused on development of effective Bus Rapid Transit (BRT) to relieve congestion and increase mobility is the only alternative, outside of no action, that would serve to address the congestion in the project area.
NEPA requires an in-depth analysis of potential project impacts utilizing accurate scientific information. MDX must consider accurate scientific information related to the likely impacts of sea level rise on the future population in the low lying project area. Additionally, the induced traffic and development that would result from this extension disrupt the basic assumptions used to justify this project in the first place. Namely, accurate scientific analysis of traffic and development inducing impacts go against the assumption that this project would reduce congestion. The impacts of this project to the Everglades ecosystem, Everglades National Park, the Central Everglades Restoration Plan, the Bird Drive Basin recharge area, wetlands and to various flora and fauna in the region would be significant and call for rejection of any alternative that proposes to extend the highway outside of the UDB. The cumulative impacts that would follow highway expansion outside of the UDB would only exacerbate the aforementioned impacts, further complicating flood control and poor land planning with urban sprawl. The proposed alternatives would build a highway over the west wellfield protection area, putting the region’s water supply at risk.

The Endangered Species Act is triggered by each of the alternatives proposed, as the endangered Florida Panther has been identified in the project area and various other endangered and threatened species are likely found in the project area. A 404 permit under the Clean Water Act should not be issued for any of the proposed alternatives because they extend outside of the UDB into ecologically valuable wetlands and practicable alternatives exist within the UDB that would have less adverse impacts on the aquatic ecosystem. Each one of the currently proposed alternatives for the 836 project are directly opposed to Miami-Dade County’s CDMP because the project would unnecessarily expand the UDB, encourage and subsidize development in areas prone to flooding, support and encourage development in agricultural and open land and be inconsistent with CERP.

For each of the reasons described in this letter we strongly oppose any expansion of 836 that extends outside of the UDB. We encourage MDX to develop an EIS for this project that thoroughly investigates and analyzes each of the recommendations made in this letter. Additionally, we believe the public interest would be best served by the creation of an alternative in the EIS, which depends wholly on the development of BRT and improved transit and land use planning to alleviate congestion in the project area and provide alternative means for west-east transportation.

I. Introduction to the Proposed Extension

A. MDX
MDX was established pursuant to the Florida Expressway Authority Act. The Act authorizes MDX to “construct any extensions of, additions to, or improvements to, the expressway system . . . that are deemed desirable and proper” if it has “the prior express written consent of the board of county commissioners . . . .” The consent of a municipality is not necessary in order for the Highway authority to move forward with a project. But, the Expressway Authority cannot undertake any construction that is inconsistent with the County’s comprehensive plan. The Act also grants MDX the authority to “finance or refinance the planning, design, acquisition, construction, extension, rehabilitation, equipping, preservation, maintenance or improvement of a public transportation facilities or transportation facilities owned or operated by such county, an intermodal facility or facilities, multimodal corridor or corridors . . . subject to approval of the governing body of such county after public hearing.”

B. The Study Area

MDX proposes to construct a new expressway connecting SR 836 from its current terminus at SW 137th Avenue and NW 12th Street to SW 136th Street near SW 157th Avenue. In the Concept Report for the proposed extension, MDX designated a study area “roughly bounded by NW 12th Street to the north, SW 136th Street to the south, SW 152 Avenue to the east, and SW 177th Avenue (Krome Avenue) to the west.” MDX expects the extension to “improve mobility in southwest Miami-Dade County.” Currently, the area suffers from considerable traffic congestion. The study area is part of a region sometimes called the West End. The West End Study conducted by Florida International University identified the “mismatch” between the number of people who live in the area and the number of jobs available as a main driver of the congestion.

The congestion is exacerbated by the low use of public transportation by West End commuters. According to the West End Study, 87.9% of District 11

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1 Ch. 348, Fla. Stat.
2 § 348.0004(1)(b), Fla. Stat.
3 § 348.0004(3), Fla. Stat.
4 § 348.0004(6), Fla. Stat.
5 § 348.0004(7), Fla. Stat.
7 CONCEPT REPORT at 5-2.
8 WEST END STUDY at 96-97 (finding that “[a]t current development levels and patterns, significant portions of the road network inside, and connecting to the District will be at or over capacity within the next 5 to 10 years.” Also noting that “[i]n general, a higher percentage of workers in the District have higher commute times (30 minutes and higher) than the County as a whole.”).
9 Id. at 25 (noting that “78% of the West End’s residents leave the West End to work each day.”).
workers commute to their place of work by car truck or van, with 83.1% driving alone, and only 2% using public transportation. However, the study notes that District 11 workers’ low use of alternative transit modes when compared with the County in general “may indicate the lack of options of alternative modes for workers from the District.” Additionally, the low public transit use is likely driven by poor configuration of the available options.

SR 836 is one of the most heavily used roads by the District’s commuters. Between SW 107th Avenue and SW 57th Avenue, SR 836 is one of the most congested highways in the Country. A 2011 report by the Texas A&M University Transportation Institute found that in 2010 this stretch of SR 836 had the 18th largest delay per mile in the country during the morning peak period, and the 35th largest delay per mile overall.

MDX has proposed four potential routes for the extension. Alternatives 1 and 3 extend to SW 136th Street. Alternatives 2 and 4 terminate north of SW 136th Street. Alternatives 1 and 3 are 15.5 and 12.3 miles long, respectively. Alternative 1 tracks Krome Avenue from SW 8th Street to SW 136th Street, traversing a region known as the Bird Drive Recharge Area, before heading back east towards the Kendall-Tamiami Airport. Alternative 3 follows 157th Avenue for the majority of its length. Alternative 2 and 4 measure 5.6 and 10.2 miles, respectively. Alternative 2 would extend SR 836 along SW 8th Street and terminate just before Krome Avenue. Alternative 4 would track the (current) Urban Development Boundary (“UDB”) south along SW 157th Avenue until SW 42nd Street where it would swing out west to SW 167th Avenue before again turning west near SW 88th Street and terminating at Krome Avenue. Each proposed route would go outside the UDB somewhere along its route. Alternative 1 would have the greatest length outside the UDB, with approximately 15 of its 15.5 miles outside the UDB. Each proposed route would consist of a four-lane limited access tolled highway.

C. The South Florida Ecosystem

10 Id. at 97.
11 Id. at 101.
12 The WEST END STUDY found that the current public transportation options are “not organized in such way that residents are aware of its availability. It may also be that current services are not organized to be appealing, visually present or coordinated to resident lifestyle modes to be maximally useful.” Id. at 141.
13 Id. at 97.
15 Florida Department of Transportation Environmental Screening Tool, https://etdmpub.flaetat.org/est/ (select “Project Number” under “Select a search option”; then enter “11482”; follow the “go” link).
16 Id.
17 Id.
18 Id.
19 Id.
20 Id.
The undisturbed South Florida ecosystem was defined by “a large areal extent of interconnected wetlands . . . resilient plant communities, and an abundance of native wetland animals.”\textsuperscript{21} An estimated 8.9 million acres of wetlands covered southern Florida,\textsuperscript{22} and the Everglades consisted of around “3 million acres of slow-moving water and associated biota” extending from Lake Okeechobee to the Florida Bay.\textsuperscript{23}

Major alteration to the hydrology of the system started in the 1880s and 1890s in order to make the area easier to develop.\textsuperscript{24} In the following decades hundreds of miles of canals were added to the system in order to remove water, and by the 1960s the Herbert Hoover Dike encircled Lake Okeechobee, resulting in “increased susceptibility to drought and desiccation” in the southern Everglades.\textsuperscript{25} Since these hydrological modifications began, “urban and agricultural development have reduced the Everglades to about one-half its pre-drainage size.”\textsuperscript{26} An extensive network of drainage and flood control projects has “diverted large quantities of water to the coastal areas, thereby reducing the freshwater inflows and natural water storage that defined the ecosystem.”\textsuperscript{27}

\textbf{II. Comprehensive Everglades Restoration Plan (“CERP”)}

CERP is a tremendous undertaking. It has accurately been described as “one of the most ambitious and extensive restoration efforts in the nation’s history.”\textsuperscript{28} CERP’s “overarching objective . . . is the restoration, preservation, and protection of the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection.”\textsuperscript{29} CERP is important not only because it is designed to protect and restore Everglades National Park, an area which has been designated “an International Biosphere Reserve, a World Heritage Site, and a Ramsar Wetland of International Importance,”\textsuperscript{30} but also because restoring the Everglades promises to assist in “mitigat[ing] the impacts of sea-level rise . . . and reducing saltwater intrusion”; thereby helping to protect Miami-Dade County from the effects of climate change.\textsuperscript{31}

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\textsuperscript{23} National Academy of Sciences, \textit{supra} note 22, at 21.
\textsuperscript{24} \textit{Id.}
\textsuperscript{25} \textit{Id.}
\textsuperscript{26} \textit{Id.} at 22.
\textsuperscript{27} \textit{Id.} at 22-23.
\textsuperscript{28} \textit{Id.}
\textsuperscript{29} 33 C.F.R. § 385.8(a).
\textsuperscript{30} National Park Service, Everglades is Internationally Significant, http://www.nps.gov/ever/learn/news/internationaldesignations.htm
\textsuperscript{31} National Academy of Sciences, \textit{supra} note 21, at 3.
\end{flushright}
This Project is inconsistent with CERP because it would increase costs and time for implementation of restoration projects, remove an important area for water supply recharge and reduce the size of the Everglades footprint.

One of the goals and objectives of CERP is to “increase the total spatial extent of natural areas.” Expansion of 836 into the Bird Drive basin would fly in the face of that goal by developing a major highway in an area with valuable short hydro-period wetlands and therefore reducing the total extent of natural areas of the Everglades.

The South Florida Ecosystem Restoration Taskforce has established the following broad goals for Everglades restoration: “(1) get the water right, (2) restore, preserve, and protect natural habitats and species, and (3) foster compatibility of the built and natural systems.” In furthering these goals, CERP “focuses primarily on restoring the hydrologic features of the undeveloped wetlands remaining in the South Florida ecosystem, on the assumption that improvements in ecological conditions will follow.” Significant portions of land within the SR 836 study area are owned by the state and were purchased in anticipation of important Everglades restoration projects. One of the goals of a project in this area is to “recharge groundwater and reduce seepage from the Everglades National Park buffer areas by increasing water table elevations east of Krome Avenue.” CERP identifies groundwater seepage loss as “the main impediment to any kind of restoration within Everglades National Park.” The land impacted by the proposed extension is one of the few areas remaining where such projects can be implemented, and building a highway here would make these lands unavailable.

Furthermore, because the proposed extension will increase development pressure on land outside the UDB, not only will the land be unavailable for restoration projects, but it will instead require flood protection. Flood protection to protect these newly developed regions will increase the hydrological gradient between the park and the area east of Krome Avenue. This could lead to greater seepage loss from the Everglades system, and will complicate restoration efforts and increase the costs of those projects. These impacts will be discussed in more detail in the NEPA section, which follows. The dangers posed by sea level rise warrant a more rapid implementation of CERP projects, but building this extension will complicate Everglades restoration efforts and delay the achievement of CERP’s goals.

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32 CERP STUDY at 5-21 Table 5-1.
33 National Academy of Sciences, supra note 21, at 24.
34 Id.
35 CERP STUDY at 9-22.
36 CERP STUDY at 6-22. Groundwater seepage is “driven by hydraulic gradients.” Id. at 2-3. The term hydraulic gradient refers to the difference in the water table between two adjacent areas. See CERP STUDY at Appendix B, Issue Paper on Freshwater Flows to Biscayne Bay at 4.
37 National Academy of Sciences, supra note 22, at 7.
III. NEPA

NEPA “is our basic national charter for protection of the environment.”\(^\text{38}\) It establishes a national policy of “encourag[ing] productive and enjoyable harmony between man and his environment,” and of “promot[ing] efforts which will prevent or eliminate damage to the environment . . . .”\(^\text{39}\) NEPA furthers these goals by “ensuring well-informed government decisions and stimulating public comment on agency actions.”\(^\text{40}\) To this end, NEPA requires agencies considering undertaking “major Federal actions significantly affecting the quality of the human environment” prepare a detailed Environmental Impact Statement (“EIS”).\(^\text{41}\) This project is a highway expansion project for which MDX plans to seek federal funds to construct. Given the significant impacts to the human and ecological environment expected to result from this project and federal funding, an EIS will be required. The Federal Highway Administration (FHWA) would likely be the federal lead agency on the EIS for this project. MDX has contracted with Stantec as the consultant to develop the draft EIS.

The “heart of the [EIS],” is the requirement that agencies “rigorously explore and objectively evaluate all reasonable alternatives” to their preferred course of action, including a no action alternative, and “alternatives not within the jurisdiction of the lead agency.”\(^\text{42}\) Under NEPA, “no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.”\(^\text{43}\) Given the considerable environmental impacts of this project, the proposed highway extension should be shelved in favor of a public transit alternative, or the no action alternative.

NEPA requires that the EIS utilize accurate scientific information. Accurate information regarding sea level rise and its impact to population growth and traffic inducing impacts resulting from building additional roads must be considered. Practical alternatives that rely solely on transit improvements as opposed to highway expansion must be thoroughly evaluated, in addition to a no action alternative. All significant impacts of the proposed alternatives must be considered, including the impacts to CERP, Everglades restoration, wetlands, vulnerable, threatened and endangered species, wellfield protection.

A. Accurate Scientific Information

\(^\text{38}\) 40 C.F.R. § 1500.1(a).
\(^\text{40}\) Or. Natural Res. Council v. Marsh, 52 F.3d 1485, 1490 (9th Cir. 1995).
\(^\text{41}\) 42 U.S.C. § 4332(C).
\(^\text{42}\) See 40 C.F.R. § 1502.14.
Compliance with NEPA requires that an EIS “contain high-quality information and accurate scientific analysis.” If information is “relevant to reasonably foreseeable significant adverse impacts” and “essential to a reasoned choice among alternatives,” then the agency “shall include the information in the environmental impact statement” as long as the “overall costs of obtaining it are not exorbitant . . . .” If “information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,” the agency must disclose in the EIS the lack of such information, and its relevance to evaluating the project’s adverse impacts. The agency must provide “a summary of existing credible scientific evidence” regarding such incomplete or unavailable information, and the agency shall provide its “evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.” “[W]hen the nature of the effect is reasonably foreseeable but its extent is not . . . the agency may not simply ignore the effect.” Finally, “[r]elying on outdated data or not acknowledging the limitations in a methodology are grounds for setting aside an EIS,” and “relevant shortcomings in the data or models” must be disclosed.

The project cannot be justified once induced traffic and the vulnerabilities of the study area to sea level rise are taken into account.

The requirement of accurate scientific information applies to the entire NEPA analysis, but it is especially important when analyzing the no build alternative, because this alternative is often used as a baseline against which the other alternatives are judged. “Without [accurate baseline] data, an agency cannot carefully consider information about significant environment impacts . . . resulting in an arbitrary and capricious decision.” Population and employment growth data are critical to understanding the mobility needs of a region, because these factors determine if, or how much, additional transportation capacity is needed. Thus, accurate projections of

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44 Lands Council v. Forester of Region One of the U.S. Forest Serv., 395 F.3d 1019, 1031 (9th Cir. 2005) (citing 40 C.F.R. § 1500.1(b)).
45 40 C.F.R. § 1502.22(a).
46 § 1502.22(b).
47 Id.
51 See Id. at 603(describing the “accuracy of the ‘no build’ baseline” as a “critical aspect of the NEPA process.”).
population growth and employment growth are necessary in order to make “a reasoned choice among alternatives,” and are “relevant to reasonably foreseeable significant adverse impacts.”\(^{53}\) Here, in order for the population and employment growth projections to be accurate both sea level rise and the deterrent effects of traffic congestion on growth must be taken into consideration. Sea level rise will influence the population growth of the West End because it will increase flooding and both the risk and the cost of owning property in the area. Because the study area is at such a low elevation, sea level rise will increase the occurrence of flooding events. Property insurance rates will likely rise in response to the increased risk and the ability to get a bank mortgage on real estate in the area will likely diminish. Sea level is expected to rise by up to two feet by 2060.\(^{54}\) In forecasting the regions socioeconomic data, the agency must attempt to incorporate this information into growth projections, or the agency must disclose its failure to do so.

The agency must also incorporate the deterrent effects of traffic congestion into its projections of population and employment growth in the “no build” scenario. Congestion acts as a deterrent to growth by increasing the “cost” of driving.\(^{55}\) Neglect of “the deterrent effects of congestion on future traffic growth” results in “unrealistically high forecasts for future traffic volumes in cases where no new capacity is added.”\(^{56}\) A projection that ignores this variable will predict intolerable traffic in the no build scenario, thus making the build option seem necessary. Such an oversight violates NEPA.

In *Catawba Riverkeeper Found. v. N.C. Dep't of Transp.,*\(^{57}\) the North Carolina Department of Transportation used socioeconomic forecasts, which assumed the construction of an expressway project in forecasting future travel demand, and then used these projections in modeling alternative road designs. The plaintiffs argued that the use of the “same socioeconomic data for both the Build and No Build conditions” violated NEPA.\(^{58}\) The court agreed,\(^{59}\) holding that the defendants’ unsupported “assumption that the Garden Parkway would have no effect on overall growth in the Metrolina region” was *clear error.*\(^{60}\)

\(^{53}\) 40 C.F.R. § 1502.22(a).
\(^{54}\) *MIAMI-DADE SEA LEVEL RISE TASK FORCE REPORT AND RECOMMENDATIONS* (2014) at 6.
\(^{55}\) *See Todd Litman, VICTORIA TRANSPORT POLICY INSTITUTE, GENERATED TRAFFIC AND INDUCED TRAVEL IMPLICATIONS FOR TRANSPORT PLANNING* (2015) at 2 (“Roadway improvements that alleviate congestion reduce the generalized cost of driving (i.e., the price), which encourages more vehicle use... reduced congestion makes driving cheaper per mile or kilometer in terms of travel time and vehicle operating costs.”).
\(^{58}\) *Id.* at 15-16.
\(^{59}\) *See id.* at 21-23
\(^{60}\) *Id.* at 22-23.
Similarly, in *Highway J Citizens Grp. v. U.S. Dep't of Transp.*, the defendants asserted that “a future 4-lane highway will not substantially influence the type, intensity, or location of development over what is already planned for and expected to occur with or without improvements . . . .” The court rejected this assertion, noting that it was “extremely counterintuitive,” and that “[o]ne need not be an expert to reasonably suspect that if Highway 164 were not expanded development in the region would be constricted. Presumably, congestion on a two-lane Highway 164 would discourage development in the area, whereas expansion of the highway to four lanes would cause development to continue unabated.”

Once these growth deterrents are incorporated into population and employment data projection there will be no justification for extending SR 836 in this area.

**If the project is built, induced traffic and development will quickly negate any traffic benefits that were created by the additional capacity.**

Induced travel demand must also be considered. Induced travel “refers to increased total vehicle miles travel (VMT) compared with what would otherwise occur” if the road was not improved. “[D]emand for increased capacity often creates a highway that, in turn, increases the influx of secondary development and recreation, thus creating demand for yet more increased capacity.” An expansion in the study area is particularly likely to lead to a high amount of induced travel because this area is already congested: “In general, the more congested a road, the more traffic is generated by capacity expansion. Increased capacity on highly congested roads often generates considerable traffic.” Induced travel and induced development considerably reduce, and in some instances negate, the traffic benefits provided by capacity improvements. At present, it seems that the models employed by MDX and the Florida Department

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61 656 F. Supp. 2d 868, 886 (E.D. Wis. 2009).
62 Id. at 887.
63 Litman, supra note 36, at 2.
64 ENVIRONMENTAL PROTECTION AGENCY (“EPA”), EVALUATION OF ECOLOGICAL IMPACTS FROM HIGHWAY DEVELOPMENT (1994) at 16 [hereinafter IMPACTS FROM HIGHWAY DEVELOPMENT].
65 Litman, supra note 36, at 11; Federal Highway Administration (“FHWA”) Project Development Branch, Secondary and Cumulative Impact Assessment in the Highway Project Development Process (1992), available at http://environment.fhwa.dot.gov/projdev/tdm2_c_imp.asp (“In areas experiencing little growth over time, an individual highway project will likely have a negligible contribution . . . . Conversely in areas of moderate to rapid development, the contributions of a highway improvement can be a measurable element of the aggregated change leading to long-term impacts.”).
66 Litman, supra note 36, at 9 (citing a review article which found that “published literature indicates long-run elasticities of demand for roadspace (vehicle miles traveled) are generally 0.5 to 1.0 after controlling for population growth and income, with values of almost 1.0 (suggesting that new roadspace is almost precisely filled by generated traffic where congestion is relatively severe.”).
of Transportation do not account for these effects. It is imperative that this factor is incorporated into the analysis.

Accurate projections of socioeconomic factors, incorporating both the effects of sea level rise and the deterrent effects of congestion, and adequate incorporation of induced travel effects are necessary for a proper understanding of the disparate environmental impacts of the build and no build scenarios, and for developing alternatives that will actually address the congestion problem.

B. Alternatives Analysis

Both a no action alternative and a public transit alternative are practicable.

The agency’s duty to “[r]igorously explore and objectively evaluate all reasonable alternatives” extends to alternatives “not within the jurisdiction of the lead agency.” The overall goal of the SR 836 extension project is to improve mobility in the study region. As discussed above, once induced travel effects, and the deterrent effects of congestion and sea level rise, are taken into consideration, it is clear that the “no action” alternative is viable because population growth and traffic congestion will not continue grow at the worrying rates predicted by MDX.

A bus rapid transit system (“BRT”) is another viable option. Several BRT projects are already listed in the Miami-Dade Metropolitan Planning Organization’s (“MPO”) 2040 Long Range Transportation Plan (“LRTP”), including a route on Kendall Drive that could serve as a viable alternative to the extension of 836. The West End Study found that the area has a “limited availability of land to significantly expand the road network,” and “limited land area to add new vehicle lanes.” As a result of these limitations, the only long-term solution to the district’s traffic problem is to reduce the region’s dependence on personal vehicle travel: “reducing vehicle trips and trip length will have to play a large part in sustainably managing the West End’s future growth.” The study proposed higher density land use and a greater range of mobility options; finding that increasing land-use density “may be the single most effective way to 1) reduce traffic congestion . . . 2) meet the desire of residents to live in a more

67 STEVE RUEGG AND TERRENCE CORKERY, A BLUEPRINT FOR TRAVEL DEMAND FORECASTING IN FLORIDA (2010) (characterizing “induced travel” as a future need, and stating: “Generally FSUTMS meets yesterday’s needs, and can be used to address today’s needs. However, future needs stretch our forecasting needs to the breaking point.”).
68 See 40 C.F.R. § 1502.14 (emphasis added).
69 See MPO 2040 LRTP at 6-41 (listing the Kendall Corridor, and East-West Corridor BRT projects).
70 WEST END STUDY at 35, 39.
71 Id. at 35.
72 “Asphalt alone will not solve the West End’s growing transportation issues. With limited land area to add new vehicle lanes, the solution to the West End’s transportation issues will involve a combination of efficient, low-impact capacity expansion, land use, and creative employment, and expanded mode choice strategies.” Id.
pedestrian and bike friendly community, and 3) meet resident desires to use local mass transit as a travel alternative.” A well-designed BRT system can deliver on all of these goals.

BRT has been incredibly successful worldwide. The ideal BRT system combines five elements: (1) dedicated right of way for buses, (2) busway alignment that “avoid[s] conflict with other traffic,” (3) off-board fare collection like that used in rail transit systems, (4) traffic intersection priority, and (5) platform-level boarding that allows for rapid entry and exit from the vehicles. BRT routes should also be designed to be as direct as possible, delivering riders from their pick-up point to their destination without forcing them to switch busses or mode of transit. This requires studying prospective riders to determine where they need to go.

The MPO has already studied potential BRT routes and corridor designs. MDX can assist in refining existing plans and in designing additional routes. In addition to a BRT system, the West End should adopt a trip reduction ordinance (“TRO”) as suggested in the West End Study. TROs consist of a mix of policies “adopted to manage congestion by promoting transportation alternatives to single occupancy driving.” A properly designed and implemented BRT system would be more effective at reducing the region’s congestion than the proposed highway extension, because it addresses the underlying causes of the West End’s congestion rather than providing a temporary fix. We urge MDX to include BRT and transit oriented projects within the UDB as an alternative to the extension of SR 836 in the EIS.

C. Consideration of All Significant Impacts

NEPA requires agencies to “consider ‘any adverse environmental effects’ of their ‘major actions . . .’.” The EIS “must ‘consider every significant aspect of the environmental impact of a proposed action . . . including the direct, indirect, and cumulative impacts of the action.’” The indirect effects of a proposed action are those impacts which are “later in time or farther removed in distance, but are still reasonably foreseeable,” including “growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” Cumulative effects are impacts to the environment,

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73 Id. at 39.
74 See Bus Rapid Transit Nearly Quadruples Over Ten Years, November 17, 2014, available at https://www.itdp.org/bus-rapid-transit-nearly-quadruples-ten-years/
76 MPO, BUS RAPID TRANSIT IMPLEMENTATION PLAN (2015).
77 WEST END STUDY at 35.
78 Id.
79 Mid States Coal. for Progress, 345 F.3d at 549 (alteration omitted).
80 Natural Desert Ass’n v. Bureau of Land Mgmt., 625 F.3d 1092, 1100 (9th Cir. 2010).
81 40 C.F.R. § 1508.8(b).
which “results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” In analyzing the environmental impacts of a highway project careful attention to the indirect and cumulative effects are particularly important.

The study area’s connection to CERP warrants a broad indirect and cumulative effects analysis.

The extension of SR 836 is likely to induce growth and development outside of the UDB, leading to extensive indirect and cumulative impacts. United States Environmental Protection Agency (EPA) guidance to analyze the ecological impacts of highway development finds highway expansion often leads to development activity in undeveloped areas.

An important consideration is an estimate of the potential for development in the area of a proposed project within a reasonable period of time...In areas experiencing little growth over time, an individual highway project will likely have a negligible contribution...Conversely in areas of moderate to rapid development, the contributions of a highway improvement can be a measurable element of the aggregated change leading to long-term impacts.... New access into undeveloped locations can contribute to subsequent development activity.

This project has a very high likelihood of inducing significant development because the study area has undergone rapid development and the road would create new access to an undeveloped location. Because the cumulative effects of

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82 40 C.F.R. § 1508.7.
84 Id. See also IMPACTS FROM HIGHWAY DEVELOPMENT, supra note 65, at 7 (Stating that the environmental impacts from “individual road segments” and the impacts from “the combined effects of the entire highway system . . . may be augmented, or even overwhelmed by secondary development, i.e., the land conversions to industrial or residential use that usually accompany road building.”).
85 Id. See also IMPACTS FROM HIGHWAY DEVELOPMENT, supra note 65, at 16 (“Creating new access to undeveloped locations can have the greatest impact, if other economic conditions are favorable.”).
the highway extension would continue to be significant years after the project is completed, the agency must analyze the impact of the extension over a wide time period.\textsuperscript{85}

In addition, NEPA requires that the cumulative effects analysis for this project consider the “past, present, and reasonably foreseeable future” effects on the Everglades ecosystem, because the likely indirect effects of the extension (induced growth and development) impact an area that is part of the Everglades ecosystem and acts as a critical buffer for Everglades National Park.\textsuperscript{86} An important step in determining the scope of the secondary and cumulative effects analysis necessary “is to determine whether the resources, ecosystems, and human communities of concern are approaching conditions where additional stresses will have an important cumulative effect.”\textsuperscript{87} The Everglades is certainly a stressed resource, and the volume of resources expended on CERP evinces both that the system is at a critical point, and that the system is critically important.\textsuperscript{88}

Finally, in analyzing the negative environmental consequences of this project, the agency should not use the region’s currently degraded state as a baseline against which those impacts will be judged. EPA guidance on cumulative impacts in reviewing NEPA documents requires consideration of historical impacts.

[T]he current condition typically may not adequately represent how actions have impacted resources in the past and present or how resources might respond to future impacts. Designating existing environmental conditions as a benchmark may focus the environmental impact assessment too narrowly, overlooking

\textsuperscript{85} CUMULATIVE EFFECTS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT, supra note 84, at 16 (“In determining how far into the future to analyze cumulative effects, the analyst should first consider the time frame of the project-specific analysis. . . . There may be instances when the time frame of the project-specific analysis will need to be expanded to encompass cumulative effects occurring further into the future. . . . project-specific effects, however, may combine with the effects of other actions beyond the time frame of the proposed action and result in significant cumulative effects that must be considered.”); Litman, supra note 36 (“[S]econdary and cumulative impacts may carry forward for many decades . . . .”).

\textsuperscript{86} See CEQ, INCORPORATING BIODIVERSITY CONSIDERATIONS INTO ENVIRONMENTAL IMPACT ANALYSIS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (1993) at 6 [hereinafter INCORPORATING BIODIVERSITY CONSIDERATIONS] (“Understanding the potential effects of an action requires looking beyond local impacts, with an eye toward the relationship of the site to the local ecosystem and to larger regional systems. Biological resources must be protected and managed at a geographic scale commensurate with the scale of the systems that sustain them.”).

\textsuperscript{87} CUMULATIVE EFFECTS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT, supra note 84, at 29.

\textsuperscript{88} The CEQ lists the identification of “the types, distribution, and intensity of key social and economic activities within the region” as important to determining the region’s stressors; noting that “population growth is strongly associated with habitat loss” and using the following statement as an example: “A federal proposal that would contribute to substantial population growth in a specific region (e.g., a highway project traversing a remote area) should be viewed as a likely driving variable for environmental effects.” \textit{Id.} at 27.
cumulative impacts of past and present actions or limiting assessment to the proposed action and future actions.\textsuperscript{89} As described above, the Everglades system has been severely degraded from its natural state by human activity over the past century. The agency must take these past actions into account in order to properly analyze the impacts of the proposed extension project.

i. Wetlands

The proposed extension will have significant impacts on wetlands because it will result in the destruction of a significant amount of important wetland habitat.

Under NEPA, the agency cannot focus solely on the acreage of wetlands affected, but rather must focus on “the function of the wetland within the broader ecosystem.”\textsuperscript{90} The impacts from this project will be severe, because it will destroy dozens of acres of wetlands,\textsuperscript{91} and because the wetlands within the study area are of particular importance. These wetlands are significant because they increase the spatial extent of the Everglades, consist largely of short hydroyperiod marsh and act as a hydrological buffer between the Everglades National Park and the developed areas of the County. Short hydroyperiod marsh is a rare type of wetland, which provides habitat for many species, including wading birds. Impacts to this critical resource can be avoided by selecting an alternative that stays wholly within the UDB.

Depending on the route chosen, the proposed extension will have significant direct impacts to wetlands from construction. Large areas of wetlands in the Bird Drive Basin area would have to be destroyed in order to make room for the proposed highway. Though the project may be elevated in this area, the area underneath the road would still have to be cleared in order to build the expressway, and the destroyed wetlands would not return to their previous state after construction. A significant amount of land adjacent to the roadway would also have to be cleared during the construction process and would also be very


\textsuperscript{90} \textit{Id.} at 6.

\textsuperscript{91} MDX suggests in the \textit{CONCEPT REPORT} that the wetlands in the study area are highly degraded by exotic species. The Florida Department of Environmental Protection responded to this suggestion by stating that: “Several areas surrounding the SR 836 extension study area have been treated for exotics as a part of ongoing restoration efforts, so this discrepancy in classification should be further reviewed and corrected as necessary.” Florida Department of Environmental Protection Memorandum re: MDX 83618 – SR 836 Southwest Extension Draft Project Concept Report, Miami-Dade County, June 19, 2009. Florida Department of Transportation Environmental Screening Tool, https://etdmpub.fla-etat.org/est/ (select “Project Number” under “Select a search option”; then enter “11482”; follow the “go” link. On the project description page, scroll down to the “Project Documents” section and click the link titled “DEP-CERP AN Comments 01-21-2011”).
unlikely to recover. A critical aspect of wetland habitats is their peat soil. Compaction of the peat soil can irreversibly destroy a wetland.\textsuperscript{92} As a result of the construction process, significant acreage of wetlands will be destroyed.

The functional importance of these wetlands to the broader Everglades ecosystem magnifies this impact. These wetlands increase the spatial extent of the Everglades National Park, a critical CERP objective.\textsuperscript{93} Wetlands located outside the Everglades National Park increase the spatial extent of the Everglades ecosystem by providing ecological functions similar to those found within the park. By protecting these wetlands the UDB creates a buffer zone\textsuperscript{94} between the developed portions of the County and the Everglades National Park. Buffer zones around protected areas "can increase the population of rare species because they provide additional usable area.... Buffer zones can also function as corridors [for wildlife]."\textsuperscript{95}

Short hydroperiod marsh is an important type of wetland that provides wading bird habitat. It is rare outside of the Everglades National Park because most of this type of wetland has already been lost to development.\textsuperscript{96} Off-site mitigation is not a viable option for replacing destroyed short-hydroperiod marshes, because this type of wetland provides specific ecosystem benefits that cannot be replicated by the creation of a different type of wetland, and the conditions necessary for the development of these marshes are not widely available.

These wetlands also serve as a hydrological buffer between the high water table of the Everglades National Park and much lower water table of the developed areas east of Krome Avenue. This buffer reduces the hydrological gradient of the area, thereby reducing groundwater seepage from the park. Reducing groundwater seepage was identified by a 2007 report from the

\textsuperscript{92} IMPACTS FROM HIGHWAY DEVELOPMENT, supra note 65, at 14 (noting that “If a surface highway NXIS perpendicular to the path of water transport, even precise construction of drams and channels may not prevent soil compaction from lowering the water table and eventually draining downflow wetlands.”).

\textsuperscript{93} “[R]everse the decline in the spatial extent and compartmentalization of the natural landscape” is very important to Everglades restoration. National Academy of Sciences, supra note 22, at 24.

\textsuperscript{94} Buffer zones have been defined as “[a]reas adjacent to protected areas, on which land use is partially restricted to give an added layer of protection to the protected area itself while providing valued benefits to neighboring rural communities.” Diego Martino, Buffer Zones Around Protected Areas: A Brief Literature Review, Electronic Green Journal (2001).

\textsuperscript{95} Id.; see also SOUTH FLORIDA REGIONAL PLANNING COUNCIL, ADAPTATION ACTION AREAS: POLICY OPTIONS FOR ADAPTIVE PLANNING FOR RISING SEA LEVELS (2013) at 16 (“Buffers, or buffer zones, require landowners to leave portions of that support natural functions, undeveloped such as existing wetlands. Buffers can naturally provide for the protection from flooding, stormwater management, preserve views, provide recreational opportunities, serve as noise barriers, and preserve existing ecosystem functions.”).

\textsuperscript{96} CERP STUDY at XII-5 (“The marshes of the East Everglades have been systematically eliminated due to agricultural and urban development over the last several decades. Large acreage of short-hydroperiod marshes, critical to the life-cycle of many water birds when water levels in the WCAs are high, no longer exist.”).
Committee on Independent Scientific Review of Everglades Restoration Progress as one of five “critical components of Everglades restoration”. By destroying significant areas of this important ecological resource, the proposed extension would have severe direct impacts.

This project will very likely induce development, which will impact an even larger area of this unique wetland habitat.

As discussed, the proposed project creates a highway in a “new location” that has experienced “moderate to rapid development”; this is exactly the type of project that the FHWA has identified as having the greatest capacity for induced development and large indirect effects. NEPA requires that these secondary and cumulative effects be analyzed.

The proposed extension will increase population growth and development demand in the region. This growth will have significant impacts on wetlands, because a considerable portion of this development would likely occur outside the current UDB. Nevertheless, MDX has identified enabling continued growth as one of the goals of the project: “Additional transportation capacity would accommodate future residential demand in the area . . . .” Furthermore, MDX has noted that “[m]ost of the area’s projected growth includes low to medium density housing developments . . . .” Additional vehicle capacity will also perpetuate a cycle of low-density growth followed by inducing traffic, which requires additional capacity improvements. Such growth will ensure that the area’s traffic remains intolerable and that development pressure on the UDB will continue to mount.

NEPA precludes the agency from simply assuming that such development and population growth would occur whether or not the expressway is built. “A conclusory statement that growth will increase with or without the project, or that development is inevitable, is insufficient; the agency must provide an adequate discussion of growth-inducing impacts.” The Environmental Protection Agency notes that areas experiencing development pressure are particularly susceptible to cumulative impacts. The wetland areas west of the

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97 National Academy of Sciences, supra note 22, at 25-26 (Listing the five critical component, including: “3. Barriers to eastward seepage of water so that higher water levels can be maintained in parts of the Everglades ecosystem without compromising the current levels of flood protection of developed areas as required by the CERP . . . .”); id. at 29 (listing several approaches to seepage management, including: “holding water levels higher in undeveloped areas between the Everglades and the developed lands to the east.”).
98 CONCEPT REPORT at ES-3.
99 CONCEPT REPORT at 2-1.
100 Davis v. Mineta, 302 F.3d 1104, 1122-1123 (10th Cir. 2002) (citing Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp., 42 F.3d 517, 526 (9th Cir. 1994)).
101 CONSIDERATION OF CUMULATIVE IMPACTS, supra note 90, at 6 (Listing the types of forests which are most likely to “be affected by cumulative effects,” including “areas experiencing development pressure.”).
UDB already face considerable development pressure, and this pressure will surely increase if any of the alternatives proposed by MDX is selected.

Induced growth and development would further diminish the service this area provides as a short hydroperiod marsh and a hydrological and a protected area buffer. Induced growth would further reduce the spatial extent of the Everglades and require flood control services, further complicating and increasing the time and cost of CERP implementation.

NEPA mandates that the agency take into consideration the Everglades’ long history of serious degradation resulting from similar developments in the past. In analyzing the cumulative effects of transportation projects:

[...]

As discussed, this area has been subjected to significant anthropogenic modification for more than a century. Moreover, the proposed extension will have impacts going forward for decades.

Currently the UDB prevents most types of development west of the boundary, but the CDMP states “further urban development beyond the 2020 UDB is likely to be warranted some time between the year 2020 and 2030.” Construction of this project would make an amendment to the UDB more likely by increasing development pressure along the boundary and by extending public services beyond the UDB. The agency should abandon any alternative that requires building outside the UDB.

The extension will introduce significant amounts of harmful pollutants into these important wetlands.

The EIS must also consider the harmful pollutants that the extension would introduce into these sensitive wetlands through polluted roadway runoff. Roadway runoff is a substantial source of nonpoint pollution affecting aquatic

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102 CONSIDERATION OF CUMULATIVE IMPACTS, supra note 90, at 12.
103 CERP STUDY at 5-23 (“South Florida natural habitats have been physically and hydrologically altered and manipulated. Consequently, the south Florida ecosystem is now substantially less productive and diverse than the historic system.”)
104 See CDMP LAND USE ELEMENT at I-74 (noting that the “UDB serve as an envelope within which public expenditures for urban infrastructure will be confined.”).
Vehicle operation generates pollutants “through emission and deposition of automobile exhaust and through discharges of both fluids and solid particles while traveling and braking”; roadway operation also creates runoff pollutants through “pavement wear.” Through these mechanisms, among others, roadway runoff can contain pollutants such as polycyclic aromatic hydrocarbons, polychlorinated biphenyls, hydrocarbons, metals, heavy metals, nutrients, and other toxic substances; “[p]aved roadways often generate higher loads of metals and toxicants than other nonpoint source pollutants.”

The ecological impacts on wetlands and other receiving waters can be both chronic and acute, depending on factors such as the nature of the highway, “the rainfall/runoff event,” and “climate and antecedent dry weather” conditions. Impacts can be severe, a recent study on the impacts of toxic highway runoff on *Daphnia magna*, an aquatic invertebrate in the order cladocera, “observed mortality rates of 80 to 100%” under certain circumstances after exposing *D. magna* to “environmentally realistic concentrations” of highway runoff. The dramatic impact of these toxic compounds on organisms at the base of the food chain indicates that roadway runoff can seriously degrade the functioning of wetland systems, and can have a large impact on the wading birds and other organisms that these wetlands support. Heavy metals found in this pollution can be especially damaging to the wildlife exposed to the runoff, because this type of pollutant persists in the environment and can accumulate in living tissue. To avoid these harmful impacts “highways and bridges should be planned so that mileage through sensitive environments, such as wetlands and estuaries, is minimized.” In addition, pesticide use for landscaping should be minimized.

### ii. Vulnerable, Threatened, and Endangered Species

The severe ecological impacts of building a highway outside the UDB, including both the direct destruction of wetlands for construction and the indirect destruction from development, will result the significant

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105 Achik Dorchin and Uri Shanas, *Daphnia magna Indicate Severe Toxicity of Highway Runoff*, 42 Journal of Environmental Quality (2013) at 1395 (“Roads and traffic have been identified as substantial nonpoint sources of contamination, adversely affecting aquatic biota through chemicals transported in road runoff”).


107 *Id.* at 7-1, 7-4, 7-5; see also Dorchin, supra note 106, at 1395.


109 “Cladocerans and other aquatic invertebrates are commonly used as indicators for water quality assessments . . . .” Dorchin, supra note 106, at 1395.

110 Dorchin, supra note 106, at 1399.

111 Dorchin, supra note 106, at 1395.

112 *NATIONAL MANAGEMENT MEASURES*, supra note 107, at 7-7.

113 *Id.* at 7-1.
loss of habitat, displacement, and death for individuals from many plant and animal species.

As mentioned, short-hydroperiod marshes provide important habitat for many species of wading birds, among other species of animals and plants. The Bird Drive Recharge Area project was projected to provide significant benefits to wildlife if operated to enhance wetlands.\textsuperscript{114} Instead, the extension of SR 836 outside the UDB will result in direct destruction of dozens of acres of this wetland habitat, and the indirect destructions of hundreds more acres from induced development, imposing a significant adverse impact on several federally and state listed species, as well as on many non-listed species. The processes triggered under the Endangered Species Act will be discussed in more detail in a section below. In addition to listed species, however, this area contains a significant number of important plant and animal species, which are necessary for the proper functioning of the ecosystem. Even if the highway project only impacts certain species, it is important to determine the effect that those impacts have on the ecosystem as a whole.

This approach is consistent with agency guidance on analyzing the environmental impacts of projects under NEPA: “NEPA also requires a broad examination of environmental effects, including those not specifically addressed by other laws; this integrated assessment is particularly well suited to the consideration of biodiversity.”\textsuperscript{115} Additionally,

[c]onsideration of “environmentally sensitive features” under FHWA regulations requires that assessment extend beyond the traditional categories of listed endangered (and threatened) species and game species to include rare and “keystone” (ecologically important) species. An ecosystem approach would include consideration of the full complement of species in an ecosystem, and would coordinate their protection with the preservation of sensitive habitat types.\textsuperscript{116}

All plant and animal species in the area of the proposed extension would be negatively impacted; both through the direct loss of habitat from road construction, and more significantly, the greater loss of habitat from the development that will be induced by the project. In addition, many species will be greatly affected by the noise created by the construction and operation of the highway. As a result of the stressed caused by this noise, several species will likely leave the area, temporarily or permanently. The extension would also lead to greater habitat fragmentation in this sensitive area.\textsuperscript{117} Notably, the extension

\begin{itemize}
\item \textsuperscript{114} CERP STUDY at K-115.
\item \textsuperscript{115} INCORPORATING BIODIVERSITY CONSIDERATIONS, supra note 37, at 16.
\item \textsuperscript{116} IMPACTS FROM HIGHWAY DEVELOPMENT, supra note 65, at 5-6.
\item \textsuperscript{117} Id. at 11 (Listing some of the consequences of habitat fragmentation, including: “Erosion of genetic diversity and amplification of inbreeding . . . . Increased probability of local extinction . . .

\end{itemize}
would significantly increase the degradation\textsuperscript{118} of the area over that caused by Krome Avenue, because highways have further reaching impacts than rural roads: “disturbance effects greatly exceed right-of-way widths and may extend 500 to 600 m from quiet rural roads and 1600 to 1800 m from busy highways . . . .”\textsuperscript{119}

The combined widths of alternative 1 and Krome Avenue will have a synergistic effect on habitat fragmentation, reducing the ecological value of the land east of Krome Avenue. If the SR 836 extension is built at-grade, the combined width of Krome Avenue and the highway would create a huge boundary between the habitat segments on either side of the roads. This extra-wide barrier\textsuperscript{120} would greatly increase the chance of road deaths for any animals attempting to cross.\textsuperscript{121} The greater width would also completely deter some species from crossing,\textsuperscript{122} cutting off habitat connectivity and isolating populations, thereby increasing the likelihood of local extinctions. If the highway is elevated as it runs next to Krome Avenue, the combined noise effects will still be greater than either road by itself, and many birds would still be lost to collisions.

Special consideration must be given to the effects of the project on migratory birds. Under the Migratory Bird Treaty Act, the agency must ensure that its construction activities do not “take” migratory birds.\textsuperscript{123} To avoid taking migratory birds the agency must ensure that construction activity does not destroy eggs or nests.\textsuperscript{124} “Removal of inactive nests of migratory birds should not

\begin{footnotesize}
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\item Extinction of wide ranging species . . . . Loss of interior or area-sensitive species . . . . Increased abundance of weedy species."
\item Id. at 13 (“Degradation of habitats specifically refers to a decrease in the health or ecological integrity of the ‘intact’ habitat.” Also noting that with highway development, “degradation is closely associated with fragmentation and what many researchers call the ‘edge effect,’” which “can be viewed as a reduction in habitat integrity at the boundary of a highway corridor caused by disturbance, contamination, or other degrading factors that extend into the natural habitat.” These effects also make an area more amenable to “[b]iological invaders,” and research “indicates that increased edge effects result in less ‘secure’ habitat for nesting birds and a much higher incidence of nest predation and parasitism.”).\textsuperscript{119}
\item Id.
\item Id. ("[M]any discontinuities associated with roadways and traffic also contribute to the barrier effect, principally the break in microclimate (temperature, humidity, and evaporation), instability of the vegetation (due to mowing and spraying), vehicle emissions (noise, dust, headlight illuminations, car exhaust, increased salinity in soil, vegetation, and ditches), and direct road kills").\textsuperscript{120}
\item Id. ("Annual road-killed animals are significantly correlated with average vehicle speed." Thus, in addition to the increased width resulting in higher road deaths, the increased speed of the cars on the extension over those on Krome Avenue will cause more road deaths.)\textsuperscript{121}
\item Id. at 12 (Studies have “suggested that small forest mammals were reluctant to venture onto road surfaces where the distance between forest margins exceeded 20 m . . . . while roads may not act as barriers per se to small mammals, they do act as psychological and sociological barriers, effectively inhibiting the movement of dispersers and ultimately gene flow.”).\textsuperscript{122}
\item 16 U.S.C. § 703(a).
\end{itemize}
\end{footnotesize}
be accomplished prior to consultation with the [U.S. Fish and Wildlife Service] office with local jurisdiction.”

These wetlands likely contain several migratory bird species of special conservation concern, including the: American bittern, least bittern, reddish egret, limpkin, roseate spoonbill. Inclusion on the Birds of Conservation Concern list indicates that “without additional conservation actions” these “species, subspecies, and populations of . . . migratory nongame birds . . . are likely to become candidates for listing under the Endangered Species Act . . . .” The above listed species are all wading birds, which can be found in the Everglades and are all likely found in the study area. Congress has recognized the importance of wetlands to migratory birds. The agency must determine whether these species are found in the area; if they are found here, special consideration must be given to the adverse effects of the project on these species.

iii. Everglades Restoration

The proposed extension complicates Everglades restoration by reducing the availability of suitable land for restoration projects.

For the reasons stated in the CERP and wetlands sections above the extension of SR 836 outside of the UDB will increase the cost and time needed for restoration, increase the need for flood control, reduce the spatial extent of the Everglades, increase pressure to expand the UDB, reduce the amount of suitable land available for restoration, and reduce the hydrological and ecological buffer between ENP and development. Each of these impacts to Everglades restoration must be fully analyzed and considered in the EIS and weigh heavily against any alternative that extends SR 836 outside of the UDB.

iv. Wellfields

The proposed extension’s proximity to the West Wellfield increases the risk of toxic compounds entering the drinking water supply.

As discussed above, runoff from roads and highways can contain polycyclic aromatic hydrocarbons, polychlorinated biphenyls, hydrocarbons, metals, heavy metals, nutrients, and other toxic substances; furthermore, “[p]aved roadways often generate higher loads of metals and toxicants than other nonpoint source

125 Id.
126 U.S. FISH AND WILDLIFE SERVICE, DIVISION OF MIGRATORY BIRD MANAGEMENT, BIRDS OF CONSERVATION CONCERN 2008 (2008) at 47.
127 See 16 U.S.C. § 2912(a)(3); see also http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html (noting that the Birds of Conservation Concern 2008 is the agency’s most recent effort to comply with § 2912(a)(3)).
128 16 U.S.C. § 4401(a)(1) (“the maintenance of healthy populations of migratory birds in North America is dependent on the protection, restoration, and management of wetland ecosystems and associated habitats in Canada, as well as in the United States and Mexico . . . .”).
Every alternative suggested by MDX would pass through at least one wellfield protection area; however, Alternative 1 is most concerning because it traverses the most sensitive areas of the West Wellfield protection area. Significant lengths of Alternative 1 are in the 30-day wellfield protection zone; large areas of Alternative 1 also pass through the 100-day and 210-day zones. The proximity of this source of large amounts of highly toxic materials to this important source of drinking water is concerning.

The proposed extension also increases the risk that trucks transporting hazardous material will spill toxic compounds into the West Wellfield. Although such accidents are relatively rare, they constitute a real threat. In 2014 there were 3,232 incidents involving hazardous material being transported by highway; 189 such incidents occurred in Florida that year.\(^{131}\)

\(^{129}\) See National Management Measures, supra note 107, at 7-1, 7-4, 7-5; see also Dorchin, supra note 106, at 1395.

\(^{130}\) Hazmat Intelligence Portal, Yearly Incident Summary Reports, https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Dashboard&NQUser=HazmatWebsiteUser1&NQPassword=HazmatWebsiteUser1&PortalPath=/shared/Public%20Website%20Pages/_portal/Yearly%20Incident%20Summary%20Reports (Select “2014” for “Incident Occurred Year,” and select “FMCSA-HIGHWAY” for “Mode of Transportation,” then select “Apply.”).

\(^{131}\) Id. (Click on the number “3,232” in the table, then select “Florida” for “State” and click on “Apply.”).
The proposed extension decreases the ability of the region to recharge the Biscayne aquifer.

One of the goals of the Everglades restoration projects planned in the study area was “to recharge groundwater.” To the extent that the area is currently functioning in this capacity, the proposed SR 836 extension would reduce recharge capability of the area by destroying wetlands and compacting soil. Furthermore, the growth induced by the extension will result in large areas of wetlands and unpaved land being replaced by roads and houses, thereby seriously decreasing the permeability of the region and decreasing the aquifer recharge capacity of the land.

Additionally, this project incentivizes population growth in the study area just as climate change will be beginning to unpredictably alter precipitation rates.

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132 CERP Study at 9-22.
in the region,\footnote{National Academy of Sciences, \textit{supra} note 22, at 140.} and as sea level rise increases salt water intrusion into the Biscayne aquifer.\footnote{Id. at 7.} The area’s increasing water demand, driven by induced population growth, could complicate efforts to slow salt water intrusion, especially if precipitation rates lower.

v. Sea Level Rise

\textbf{Sea level rise exacerbates the project’s environmental impacts and removes the projects justification.}

NEPA, and Miami-Dade County law, require that sea level rise projections be considered when analyzing the impacts of a project.\footnote{NEPA mandates accurate scientific analysis. \textit{Lands Council}, 395 F.3d at 1031. The severity and scope of a project’s impacts varies considerably depending on whether or not one takes into account sea level rise, especially for projects in south Florida. Because sea level rise is such a well-studied and widely accepted phenomenon, agencies must incorporate these projections into their impact analyses.} Miami-Dade County law requires that infrastructure projects take into consideration the potential impacts from sea level rise “during all project phases . . . in order to ensure that infrastructure projects will function properly for fifty (50) years or the design life of the project, whichever is greater.”\footnote{Miami-Dade Court Resolution, File # 140804, \textit{available at} http://www.miamidade.gov/govaction/matter.asp?matter=140804&file=true&yearFolder=Y2014; see also CDMP Transportation Element Objective TE-1H (requiring that in “developing their transportation plans,” “[t]ransportation agencies . . . take into consideration climate change adaptation and mitigation strategies through project review, design, and funding for all transportation projects. Transportation agencies should consider extending their planning horizons appropriately to address climate change impacts.”).} The Miami-Dade Sea Level Rise Task Force Report and Recommendations assumes “two feet of sea level rise by 2060,” and “[f]or longer range planning up to 2100, at least three feet of sea level rise should be utilized.”\footnote{MIA MI- DAE SEA LEVEL RISE TASK FORCE, \textit{REPORT AND RECOMMENDATIONS} (2014) at 6-7, \textit{available at} http://www.miamidade.gov/planning/library/reports/sea-level-rise-final-report.pdf.} The map below shows that the study area is vulnerable to a 2 to 3 foot rise in sea level.
Given that 2 to 3 feet of sea level rise must be assumed, it is not feasible to build such a large infrastructure project in this low-lying and environmentally sensitive area. Because of the very high probability of increasingly severe flooding in the region, there will not be a great enough population in the area over the life of the project to justify the expense or the environmental impacts associated with a new highway. Furthermore, the infrastructure itself will be vulnerable to this flooding, making it even more costly and difficult to operate and maintain.

Moreover, all of the environmental impacts discussed in the sections above will be exacerbated by sea level rise. Rising seas will decrease the spatial extent of the Everglades by inundating the lowest-lying wetlands; this makes the wetlands in the study area even more important to the success of CERP and to the welfare of wetlands dependent species.

IV. Wetlands

Constructing the proposed SR 836 extension would violate Executive Order 11,990 because there are practicable alternatives, which do not destroy wetlands.

Agencies are required to give special consideration to the impact of their actions on wetlands. “Executive Order 11,990 imposes a non-discretionary duty on the heads of agencies to ‘take action to minimize the destruction, loss or degradation of wetlands.’”\(^{138}\) The Order requires that agencies “avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such

construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.”

The Order also requires that each agency “shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities.” In carrying out these activities, the agency must:

consider factors relevant to a proposal’s effect on the survival and quality of the wetlands. Among these factors are: (a) public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion; (b) maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and (c) other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

As discussed above, the wetlands in the study area are important to the success of Everglades restoration efforts because they increase the spatial extent of the Everglades and provide important hydrological and ecosystem functions. In order to comply with Executive Order 11,990, whichever alternative is selected must remain within the UDB and avoid destroying these wetlands.

V. Endangered Species Act

The Endangered Species Act (“ESA”) requires federal agencies to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [the critical] habitat of such species....”

If a federal project may affect a listed species, the action agency (FHWA) must engage in “consultation” with the U.S. Fish & Wildlife Service (“Service”) under Section 7 of the ESA. Section 7 is the central enforcement provision that operates to prohibit federal agencies from authorizing, funding, or otherwise carrying out any action that is likely to “jeopardize” the continued existence of an endangered species or result in the destruction or adverse modification of the species' critical habitat. An action will cause “jeopardy” if it “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both

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139 Executive Order No. 11,990, § 2(a), 42 FR 26961.
140 Id.
142 Id. § 1536(a)(2).
The Service’s implementing regulations set forth the specific process for consultation.\textsuperscript{144} The process begins with the action agency requesting from the Service information regarding whether any listed or proposed species may be present in the area of the agency action.\textsuperscript{145} The “action area” means “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.”\textsuperscript{146} If listed species may be present, the action agency may prepare a “biological assessment” to determine whether the listed species will likely be adversely affected by the proposed action.\textsuperscript{147} If the action agency determines that the proposed action is likely to adversely affect a listed species or adversely modify its critical habitat, the agency must engage in formal consultation with the Service.\textsuperscript{148} The threshold for triggering formal consultation is “very low” and “any possible effect...triggers formal consultation requirements.”\textsuperscript{149}

During formal consultation the Service must review all relevant information, evaluate the status of the listed species, “evaluate the effects of the action and cumulative effects on the listed species,” and formulate its biological opinion as to “whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species...”\textsuperscript{150} The Service’s evaluation must be based on the “best scientific and commercial data available.”\textsuperscript{151} This process culminates in the issuance of a “biological opinion” explaining how the proposed action will affect the listed species or critical habitat.\textsuperscript{152}

If the biological opinion concludes that the proposed action will “jeopardize the continued existence” of a listed species or adversely modify its critical habitat, the biological opinion must outline “reasonable and prudent alternatives” to the proposed action.\textsuperscript{153} If, on the other hand, the biological opinion concludes that the action is not likely to jeopardize the continued existence of a listed species, and will not result in the destruction or adverse modification of critical habitat, the Service must provide an incidental take statement (“ITS”), specifying the amount or extent of such incidental taking on the listed species, any “reasonable and prudent measures” that the Service considers necessary or appropriate to minimize such impact, and setting forth the...
“terms and conditions” that must be complied with by the action agency to implement those measures.\footnote{\textit{Id.} § 1536(b)(4); 50 C.F.R. § 402.14(i).}

A Complete and Accurate Survey of Federally and State Listed Species Must Be Performed in the Study Area.

A search of the Florida Natural Areas Inventory (“FNAI”) database reveals that many federal and state listed species are potentially found in the project study area.\footnote{FNAI provides data on species that have been documented in the area, are likely in the area, or are potentially in the area. Documented species are those for which “[t]here is a documented occurrence in the FNAI database of the species or community within” a specific matrix unit. Likely species are those for which “[t]he species or community is known to occur in this vicinity, and is considered likely within” the matrix unit. Potential species are those species for which the selected matrix unit “lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.” http://fnai.org/biointro.cfm} The federally, and state, listed endangered Florida panther has been documented near the potential route of Alternative 1.\footnote{FNIA, Biodiversity Matrix Map Server, available at \url{http://fnai.org/biointro.cfm} (click the link titled “Enter Biodiversity Matrix Map Server” then zoom into the extension study area; select the “identify” tool, then click on Matrix Unit 65027 and select “run report”).} In fact, a web-based search of biological opinions prepared by the U.S. Fish & Wildlife Service over the last few years reveals numerous panther telemetry points along and outside the eastern edge of Everglades National Park. These data points occur within just a few miles of the proposed project.\footnote{See U.S. Fish and Wildlife Service, Biological Opinion for the Tamiami Trail Modifications: Next Steps Project, at 139 (October 18, 2010) available at http://www.fws.gov/verobeach/verobeach_old-dont_delete/images/biologicalopinion/20101018_Memo_Service%20to%20NPS_BO%20FA0398%20Tamiami%20Trail%20Mod%20Next%20Steps.pdf.} Given that vehicle collisions remain one of the leading causes of panther mortality,\footnote{See Florida Fish & Wildlife Conservation Commission, News Release, “New Speed Zone on Hendry Highway Will Help Protect Florida Panther,” April 3, 2012 at http://myfwc.com/news/news-releases/2012/april/03/panther-hendry-zone/} and the number of panthers recorded in the area over recent years,\footnote{Of course the telemetry data does not take into account un-collared panthers, particularly young males that may be dispersing across the vicinity of the project. The Service notes that young male panthers have a mean dispersal distance of 24.9 miles and a mean maximum dispersal distance of 42.3 miles. \textit{See supra} note 169 at 10.} FHWA will almost certainly have to enter into formal consultation with the Service regarding the project’s impacts to species and what measures may need to be implemented to avoid and minimize the “take” of this species.

Both the federally listed wood stork (threatened) and snail kite (endangered) are also likely found in the project area.\footnote{Id. at Matrix Units 65027, 65239, 65448.} The wetlands that will be impacted by this project likely provide foraging and nesting habitat for these species. Other federally listed species potentially found in the project site include the Cape Sable seaside sparrow (endangered), deltoid spurge (endangered), and...
the eastern indigo snake (threatened).161 Florida listed species potentially found in the area include the above mentioned federally listed species, as well as the large-flowered rosemary, Wright’s anemia, Blodgett’s wild-mercury, clamshell orchid, coastal vervain, gopher tortoise, pineland jacquemontia, Small’s flax, Florida royal palm, Bahama sachisia, Eaton’s spike moss, Florida filmy fern.162 The agency must conduct a thorough survey of the area to determine if these, or other, listed species are present. We further expect the agencies to enter into formal consultation with the U.S. Fish & Wildlife Service regarding this project’s impacts to listed species.

V. Clean Water Act

No Section 404 permit should be issued for the proposed extension.

The objective of the Clean Water Act163 (“CWA”) is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”164 The CWA requires a Section 404 permit from the United States Army Corps of Engineers (“Corps”) before any dredged and fill material can be discharged into the waters of the United States.165 MDX anticipates applying for a Section 404 permit from the Corps; it is very likely that every alternative discussed by MDX will require at least one such permit.

Permits for the discharge of dredged or fill material will not be approved “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem.”166 For projects like the proposed 836 extension, which are not water dependent and which propose to discharge into a special aquatic site,167 “practicable alternatives that do not involve special aquatic sites are presumed to be available,” and “all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem . . . .”168

Every alternative proposed by MDX would adversely impact wetlands; however, alternatives 2 and 3 would likely have the lowest impacts to wetlands of the four alternatives proposed by MDX. As discussed, BRT is a practicable alternative to the proposed extension, and any potential BRT route could be designed to have no wetland impacts. Furthermore, the no action alternative is a practicable alternative because the deterrent effects of traffic congestion and sea

161 Id.
162 Id.
163 33 U.S.C. § 1251 et seq.
165 33 U.S.C. § 1344(a); see § 1362(6) (defining dredged material as a pollutant).
166 40 C.F.R. § 230.10(a); see § 230.10(a)(2) (An alternative is practicable “if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.”).
167 Wetlands are considered ‘special aquatic sites’. 40 C.F.R. § 230.41.
168 40 C.F.R. § 230.10(a)(3).
level rise will slow population growth in the area and prevent the worsening traffic scenario predicted by MDX in the project Concept Report. As there are several practicable alternatives available that will have less adverse impacts on special aquatic sites than the proposed extension of SR 836, the Corps should deny any Section 404 permit application for the project.

Any Section 404 permits for the proposed extension should also be denied because Corps regulations provide that no Section 404 permit will be issued if the permitted project “will cause or contribute to significant degradation of the waters of the United States.”169 Under the Guidelines issued by the Corps, effects contributing to significant degradation considered individually or collectively, include: (1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on . . . wildlife, and special aquatic sites; (2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems . . . (3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat . . . .170

“[T]he degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines.”171 The proposed extension will significantly degrade the waters of the United States for all of the reasons discussed in the NEPA section above. The project would have significant adverse effects on wildlife and special aquatic sites, and would have severe effects on the diversity, productivity, and stability of the aquatic ecosystem.

A section 404 permit will also be denied if the Corps determines that “issuance would be contrary to the public interest.”172 Under the public interest review a broad range of factors are considered:

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. . . . The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. . . . All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general

169 40 C.F.R. § 230.10(c).
170 Id.
171 40 C.F.R. § 230.1(d).
172 33 C.F.R. § 323.6(a); 33 C.F.R. § 320.4(a)(1); Hoosier Envtl. Council v. U.S. Army Corps of Eng’rs, 722 F.3d 1053, 1055 (7th Cir. 2013).
environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.  

The traffic reducing benefits of the proposed extension have been overstated by MDX because its models ignored induced travel and induced growth. Furthermore, the study area’s connection to CERP highlights the far reaching environmental consequences of the project. Any potential Section 404 permit for a project that goes outside the UDB should be denied, because such a project is contrary to the public interest.

VI. County Law

The proposed extension is inconsistent with several provisions of the CDMP because it extends outside the UDB.

To comply with the Florida Expressway Authority Act, any proposed extension of SR 836 must be consistent with the County’s CDMP. The CDMP declares the County’s intent regarding which areas should be open to development and which areas should be maintained as conservation land. Among the goals established by the CDMP are:

that the intensification of physical development and expansion of the urban area should be managed to occur . . . 3) in locations which optimize efficiency in public service delivery and conservation of valuable natural resources; and 4) in recognition of the County’s physical limitations to horizontal expansion due to the location of the Everglades National Parks, wetlands and environmental preserves, and the County’s unique agricultural land resources.  

Building an expressway outside of the UDB is incompatible with these goals, because “[g]iven the fundamental influences of infrastructure and service availability on land markets and development activities, the CDMP has since its inception provided that the UDB serve as an envelope within which public expenditures for urban infrastructure will be confined.”

Moreover, the proposed project is directly inconsistent with several provisions in the CDMP. Provision CON-7J provides: “In evaluating applications that will result in alterations or adverse impacts to wetlands Miami-Dade County shall consider the applications’ consistency with Comprehensive Everglades

173 33 C.F.R. § 320.4(a)(1); B&B P’ship v. United States, 133 F.3d 913, at *5 (4th Cir. 1997).
174 CDMP Land Use Element at I-1.
175 Id. at I-74.
Restoration Program (CERP) objectives. Applications that are found to be inconsistent with CERP objectives, projects or features shall be denied.” For the reasons described above in the NEPA and CWA sections, the proposed extension is inconsistent with CERP objectives, and cannot be approved.

Objective TC-6A requires that the County “avoid transportation improvements which encourage or subsidize increased development in . . . areas of high risk of significant inland flooding.” As discussed, the project will encourage development in such flood prone areas, and so is inconsistent with the CDMP. The CDMP also states “the construction of new roads . . . to serve areas outside the UDB at public expense will be permitted only if such roadways are shown on the LUP map and in the Transportation Element.” Currently, the proposed extension is not on the LUP map.

Other provisions throughout the CDMP reaffirm its commitment to confining development and infrastructure construction to areas within the UDB. Objective LU-2B provides that the services and resources shall be allocated to service areas within the Urban Infill Area and the UDB before allocating to areas outside the UDB; noting that “services and facilities which support or encourage urban development in Agricultural and Open Land areas shall be avoided . . . .” This project certainly encourages the eventual development of adjacent Open Land and Agricultural areas.

Miami-Dade County ordinances also limit actions that can be taken in wetlands, affecting several of the proposed alternative routes. County Ordinance Sec. 24-48.3 (5) requires that all work, which affects wetlands in the Bird Drive Everglades Wetland Basin be consistent with the Basin Plan. Additionally, all tree islands in the area must be preserved. These provisions are particularly relevant to alternatives 1 and 2.

Conclusion

For all the reasons stated in this letter we strongly urge MDX to fully analyze the significant impacts to the environment, urban planning and Everglades restoration that extension of SR 836 outside of the UDB would have. We further encourage the development of a transit oriented alternative located wholly within the UDB. We oppose any option that extends SR 836 outside of the UDB. Thank you for your time and consideration of these comments.

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176 CDMP Conservation, Aquifer Recharge and Drainage Element at IV-12.
177 CDMP Transportation Element at II-16.
178 CDMP Land Use Element at I-61.
179 See CDMP Land Use Element at I-5.
180 Sec. 24-48.3 (5)(a).
181 Sec. 24-48.3 (5)(b).
Best regards,

Julie Dick

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    Tori White, US Army Corps of Engineers
    Nick Wiley, Florida Fish and Wildlife Commission
    Larry Williams, US Fish and Wildlife Service
    Dr. Jeff Marcus, Stantec
    MDX Board of Directors
    Miami-Dade State Legislative Delegation
    Tere Garcia, MDX
    Jim Teas, Sierra Club Miami Group
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    Cara Capp, National Parks Conservation Association
    Laura Reynolds, Tropical Audubon Society
    Kathleen E. Aterno, Clean Water Action
    Ryan Smart, 1000 Friends of Florida
    Jacki Lopez, Center for Biological Diversity
    Elizabeth Fleming, Defenders of Wildlife
    Greg Bush, Urban Environment League