The Corps' failure to include sufficiently cautious restrictions on mining in the Wellfield and near the pumping wells may already have allowed an irreversible harm to occur: reclassification of the Wellfield and the Aquifer.[209] The former Director of WASD, William Brant,[210] testified that:

> [t]he approach of providing drinking water in Dade County in my 35 years of experience has always been to protect the groundwater quality, not have to rely on a manmade water treatment plant, where, you know, things can go wrong, and frankly which isn't in most cases designed to handle the variety of chemicals that exist.

Tr. 1449 (William Brant).

The Court is very concerned about the potential contamination of private wells operating near ongoing mining operations. The evidence on this issue was unclear. The parties focused on the existence of private wells in the Wellfield area,[211] but did not comment on the existence of private wells in the areas near those mining operations which are not located in the Wellfield. The former Director of WASD testified that there are:

> thousands and thousands of private water supply wells throughout [Miami-Dade County] that people rely on, some for sprinkling but for some drinking. Quite a bit for drinking. Water is used. It's very accessible. It's very easily obtained. You

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[209]To be clear, the Court's ruling is not based solely on harm to the Northwest Wellfield, but also harm to the Aquifer itself.

[210]The Court found Mr. Brant to be an impressive witness as to the operations of WASD regarding wellfield issues, having served as WASD's Director for seven years, and also as an Assistant Director at DERM for ten years. Tr. 1428-29 (Brant).

[211]The Defendants again confused the facts by assuring the Court that the private wells issue is a "red herring" since the County's Director of WASD reports that there is no residential development in the Northwest Wellfield area. Docket No. 350, p. 20.

can put a well in 20 feet and get water.

Tr. 1449 (Brant). This testimony informs the Court that there may be private wells in the rural residential development within the Lake Belt area and the surrounding housing developments to the north, south, and east of these mining operations – clearly visible in photographs in the record. In short, the evidence is missing as to private well owners in surrounding areas and the effect this mining may have on the Aquifer from which they get their water; thus, it is unclear whether landowners in surrounding areas are at an increased risk of potential exposure to benzene, cryptosporidium, giardia or other contaminants as a result of the mining which has occurred pursuant to these improperly issued permits.

4. Establishing a temporary protection area to protect the production wells from further contamination, to be adopted immediately

In light of the overwhelming evidence and nearly unanimous opinion[212] that the current Wellfield protections provide an inadequate buffer,[213] and the Corps' failure to acknowledge that fact, the Court reluctantly has determined that it must impose a specific prohibition on mining near the Wellfields' production wells. The Court is not a hydrologist, and is extremely reluctant to make a decision as to which lines would be

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[212]As previously noted, experienced scientists, policy makers, the USGS, and others all conclude that the lines are inadequate to protect the Wellfield from contamination.

[213]Not only are the Wellfield protections universally viewed as inadequate, but it appears to be undisputed that the necessary upgrades to the water treatment plants will take at least three years to complete.

adequate to protect mining which the Corps continues to authorize; however, at an absolute minimum, the Court has determined that the line represented in Plaintiffs' Exh. 3b, i.e., the 60-day[214] line based upon the current permitted maximum pumping rate of 155 MGD[215] and the lower porosity-thickness product (Nb of 1.33 ft), as derived by Dr. Papadopulos from the 2003 and 1998 tracer tests, Plaintiffs' Exh. 3b, must be the mining setback distance for the duration of this brief interim period until the Corps completes its SEIS. The Court has selected this proposed delineation of risk based upon the fact that it relies on the only tests which were located to the west of the wellheads – i.e., taking into account the east-flowing groundwater and relevant

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[214]The Court has selected the 60-day line for consistency, as that was the estimated level of risk incorporated in the mining proposals several years ago (reportedly estimated and derived by the mining companies), and to be as protective as possible in light of the record before this Court: the Corps' deliberate and consistent refusal to impose necessary restrictions on mining near the production wells despite nearly unanimous scientific opinion that the existing protection zones are inadequate.

[215]The Court has determined that the appropriate pumping rate to provide the best protection of the Wellfield is the rate associated with the Wellfield's current maximum permitted capacity, i.e., 155 (225 MGD is the planned future use of NWWF). Dr. Papadopulos' model uses a rate of 150 MGD, which approximates the 155 MGD. The Court finds that average daily rates of pumping are not a sufficiently strong indicator of future risks. Moreover, the original lines were based upon planned maximum pumping capacity at the Wellfield. AR1175. ("The outer regulatory boundary established for the NWWF Protection Area is located where it was estimated that the surrounding water table will be drawn down 1/4 ft. when the Wellfield is pumping at 220MGD. The travel-time protection boundaries within the outer boundary assume the same pumpage rate.") Should there be any increase in the pumping rate from the Wellfield beyond the presently permitted 155 MGD, the 60-day setback lines (based on 225 MGD) proposed in Exh. 6 (Plaintiffs' Exh. 4b is an incorrect version of this exhibit) shall be observed and all mining within that boundary must cease within 48 hours of the Corps receiving notification of the change in pumping rate.

gradients.[216] Thus, the partial stay of this Order vacating the permits does not apply to mining within the protection area indicated in Plaintiff's Exh. 3b, included as an Appendix to this Order. In other words, all devegetating, demucking, scraping, blasting, and harvesting of limestone from the Aquifer must stop in those areas immediately (**no later than 5:00 p.m. on Tuesday, July 17, 2007**). The Corps shall ensure compliance with the Court's Order. Any rock which already has been removed, i.e., is above the surface, may be hauled away and processing in plants or any other above-ground activity may continue. The Court's review indicates that the following mining operations are affected by this prohibition, but the Corps shall determine precisely which mining operations are affected:

> Tarmac - there shall be no devegetating, demucking, scraping, blasting or harvesting of limestone from the Aquifer as to all mining in Sections 10 (nothing done yet) and 3 of T53S, R39E; as to all but the northern half of the mining in Section 34 of T52S, R39E; and as to all but the northern and eastern areas of the mining Section 1 of T53S, R39E. The permittee may continue to process rock which already has been removed or stockpiled and may continue to conduct other above-ground operations not prohibited by this Order.
>
> Florida Rock - there shall be no devegetating, demucking, scraping, blasting or harvesting of limestone from the Aquifer as to all mining in Sections 9, 15, 21, and 22 of T53S, R39E. The permittee may continue to process rock which already has been removed or stockpiled and may continue to conduct other above-ground operations not prohibited by this Order.

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[216]The results of the first tracer dye test in 1998, at Injection Well G-3253, and the test in 2003, at Injection Well G3773, provide the most conservative extrapolations of protection zones in the record before this Court. The other tests, i.e., the second and third tests in 1998, the fourth test in 1998, and the test in 1999, were located to the east of the production wells – which suggests that their results may have been affected by the eastward movement (i.e., away from the production/detection wells) of the groundwater. The Court has determined that the estimates calculated with the more conservative approach (i.e., more protective of the Wellfield), are the better choice for the immediate future, until the SEIS is complete.

> APAC/White Rock[217] - there shall be no devegetating, demucking, scraping, blasting or harvesting of limestone from the Aquifer as to all mining in Sections 16 and 23 of T53S, R39E. The permittee may continue to process rock which already has been removed or stockpiled and may continue to conduct other above-ground operations not prohibited by this Order.

The Corps shall confirm to the Court no later than 5:00 p.m. on Monday, July 16, 2007, whether the mining operations identified above are the ones which would be within the area identified in Plaintiffs' Exh. 3b as the 60-day travel time protection zone. To be clear, the Court is ordering this remedy, and setting aside these permits until the SEIS is completed because the Corps has failed to fully consider the impacts on the Wellfield caused by this mining, in violation of, *inter alia*, 33 C.F.R. § 320.4, 40.C.F.R. § § 230.11, 230.10, and 40 C.F.R. § 1502.

In making the ruling announced today, which requires that White Rock, Florida Rock and Tarmac cease mining in certain areas of their operations, the Court has considered primarily the need to protect the Wellfield and the Aquifer. The Court notes, however, that for at least two of the three corporations which will experience these limits on mining, the record suggests that they will be able to adapt. For example, the Court has considered that White Rock has alternative locations in which to mine, including its main quarry at the north of the Lake Belt area, and that Florida Rock apparently has the ability within its new corporate identity, i.e., as Vulcan Materials, to absorb the loss. The Chairman of Vulcan Materials, the new owner of Florida Rock, has stated that

> Florida Rock [is] extremely well positioned, regardless of the outcome of the Lake

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[217]The Court has been unable to determine from the record what portions of APAC's permit are being mined by White Rock; thus, the prohibition applies to both companies – whichever is mining in the prohibited area.

> Belt litigation. . . . Florida Rock can [completely] recover from the loss of all of the 4 million tons that it could possibly lose as a result of an adverse ruling in the Lake Belt litigation. . . . [T]he combined Vulcan/Florida Rock company will be well positioned on any of those possible outcomes [of the Lake Belt litigation].

See transcript of discussion between Don James, Vulcan Materials Company, Chairman and CEO, and John Baker, Florida Rock Industries President and CEO, SEC minutes of February 29, 2007, available at www.secinfo.com/dsvr4.u2dh.9.htm#1stPage.[218] The President and CEO of Florida Rock, John Baker, noted that the company had been approached by Vulcan Materials in December 2006, and that the deal had been in negotiations since then. Mr. Baker reported that:

> by double shifting Fort Myers, we feel like we could make a lot of money on the second 4 million tons out of Fort Myers where we have really, really long-term reserves and could afford to do that. When you bring Vulcan into the picture, there are so many positive ways this could turn out, it's really an appealing situation. . . . [T]he combination of the two companies has taken the Lake Belt, ironically, from being a threat to being an incredible opportunity perhaps.

Vulcan Materials' Chairman and CEO continued by stating that:

> given our ability to produce aggregates in the State of Florida, and our ability to bring aggregates into the State from offshore [from Mexico by ship] and from Georgia and Alabama [by rail], we are very well positioned . . . we already have existing facilities to supply much larger quantities of material to the State of Florida with very little additional capital cost.

As to Tarmac, the Court notes that most of the areas allowed to be mined under these permits already have been cleared. Tarmac is "running up against the end" of its ten

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[218]To be clear, the Court is not making a determination that this evidence, i.e., the transcript of a telephone conference call announcing the purchase of Florida Rock, is admissible. Rather, the Court simply notes the statements made during that call, to provide context for the impact of today's ruling by the Court.

year permit and already has cleared/devegetated everything under the current permits "until [they] get special condition seven [restricting the double cross-hatched area from mining] lifted." Tr. 5064 (Albert Townsend). The BO, published in August 2006, indicated that Tarmac had 653 acres to be cleared. It appears that of that amount, approximately 340 acres are located in Section 10, T53S, R39E, and subject to the Corps' double cross-hatching restrictions at this time in any event.

B. The permits must be set aside because the Defendants' conduct to date with respect to mitigation requirements has been arbitrary, capricious, or otherwise not in accordance with law – and has resulted in the unnecessary destruction of hundreds of acres of wetlands and other adverse environmental effects

The Court's March 2006 order analyzed the mitigation insufficiencies as well as the groundwater seepage issues. No evidence or testimony presented to this Court has altered the Court's conclusions that these are important issues which should have been more completely analyzed before these permits were issued. Moreover, the state of the evidence today clearly reveals that the mitigation strategy has serious flaws including the inadequacy of the cost estimates with respect to the acquisition of acres of wetlands in the Pennsuco, the insufficiency of the available land in the Pennsuco, and the failure to have a developed plan for the construction of littoral shelves related to mining which occurred years ago – all as predicted. In contrast, the issues as to groundwater seepage remain somewhat undefined, as discussed below, and suggest a need for much further study prior to determining appropriate mitigation for anticipated impacts.

As discussed in the Court's March 2006 Order, the mitigation requirements which

were included in the permits were widely criticized as insufficient. Sierra Club v. Flowers, 423 F. Supp. 2d 1273, 1322-27.[219] Senior Corps staff predicted that there would be a "a deficit [of mitigation in the] early years" of the permits. SAR1230.[220] The Corps also has been criticized nationally for its failure to ensure compliance with the mitigation required in all CWA §404 permits pursuant to 33 C.F.R. § 325.4(a)(3). Plaintiffs' Exh. 174, Government Accountability Office Report to the House Committee on Transportation and Infrastructure, "Wetlands Protection: Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure that Compensatory Mitigation is Occurring," September 2005 ("GAO Report").

> The Corps' priority has been and continues to be processing permit applications . . . . Until the Corps takes its oversight responsibilities more seriously, it will not know if thousands of acres of compensatory mitigation have been performed and will be unable to ensure that the section 404 program is contributing to the national goal of no net loss of wetlands.

Id., pp. 26–27.[221] The Corps' failure to include "reasonably enforceable" mitigation requirements for the impacts of mining authorized in these permits violates the Corps' governing regulations, 33 C.F.R. § 325.4(a), and the Corps' failure to date to include

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[219]The mitigation provisions of the mining permits were confusing even to the Corps' own staff. See SAR1277.

[220]"The '50 year' projection (Table E attached to the permit) shows the companies will have a deficit (WRAP units impact > mitigated) in the ***early years***. So even if they are behind (because of difficulty in buying land, etc.) that is OK so long as we think will [*sic*] 'catch up' later. If one of the 'fixes' is to raise the 5cents/ton rate, the legislature provided that the Mitigation Committee submit a report to the Legislature 'no sooner than 31Jan2010 [*sic*].'" SAR1276 (email between two senior Corps staff, June 2003)(emphasis added).

[221]The Corps agreed with each of the report's recommendations for improvement in the Corps' section 404 compensatory mitigation program. GAO Report, pp. 40-41.

mandatory provisions regarding the acquisition of the Pennsuco or the transfer of mined property to the public compel this Court to order that the permits must be set aside.[222]

As predicted, the costs of acquiring land in the Pennsuco, the targeted area for mitigation, have increased far beyond the costs estimated in the permits' mitigation scheme. The current market value is five times higher than the $3,000 per acre acquisition costs assumed by the Corps at the time it approved the permits. Tr. 3292 (Janet Llewellyn). The Corps' "Three Year" review report notes that it is "increasingly more difficult to acquire adequate mitigation land in the Pennsuco within the limits of the fees collected." Docket No. 103.[223] Intervenors have started paying higher mitigation fees for each ton of the limestone mined. It is unclear whether the newly increased mitigation fee will be sufficient. See discussion, *supra*, page 14. If the Corps had conducted further study of the mitigation needs at the time it decided to issue these permits it seems that it would be more likely that the originally intended mitigation of the Pennsuco would occur. The present evidence suggests that it might not, due to the high

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[222]"The proceeds of the mitigation fee [per ton of mined rock] must be used to conduct mitigation activities that are appropriate to offset the loss of the value and functions of wetlands in the Lake Belt area as a result of mining activities and must be used in a manner consistent with the recommendations contained in [the state legislature's Lake Belt Plan]." AR1028, p. 61 (ROD, Evaluation of the 404(b)(1) Guidelines: 9.b.(4)(b)(i) Minimization of adverse effects, Compensatory mitigation).

[223]Oddly, the Corps' "Three Year" report states that the permittees "have remitted a total of $12,922,387 in mitigation fees . . . [between] 1999 and the end of 2004. By comparison, the total fee collection estimated in the Lake Belt Permits (appendix A) was $11,883,164." Three Year, p. 7. There is no context for this statement – for example, it may be that the permittees owed $12,000,000 in mitigation for the period from 1999 until April 2002, i.e., PRIOR to these permits. The comparison is meaningless, and misleading.

prices being demanded by unwilling sellers who own property in the Pennsuco. Indeed property elsewhere in the Lake Belt is being sold at significantly higher prices; White Rock recently paid $160,000 per acre for property in the Lake Belt that is not presently within the permitted areas. Tr. 5560 (Hurley).

In addition, there may not be enough property available in the Pennsuco to accomplish all of the required mitigation. Sierra Club, 423 F. Supp. 2d at 1328.[224] The permits require that "[compensatory mitigation for the ecological impacts to the wetlands associated with land clearing activities authorized by this permit will be provided by acquiring, restoring and managing lands within the Pennsuco." See, e.g., p. 4 of AR1055 (Permit issued to Sunshine Rock, Inc., Permit No. 200002285).[225] An internal

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[224]The Corps reported, in February 2002, that there would be enough area in the Pennsuco to accommodate the first ten years of mining, AR990, but a senior Corps staff member noted that the permitted acres actually will take sixteen years to mine and there will be insufficient acreage available for mitigation in the Pennsuco for that period. AR978.

[225]The following colloquy is revealing – the permittees continue to promote the idea of full public ownership of the Pennsuco despite the demonstrated difficulties in acquiring any additional lands from unwilling sellers even though there are funds available in the Lake Belt mitigation account to purchase property. In response to Intervenors' closing argument in favor of the mining activities, claiming "what you end up with is publicly-owned lands in the Pennsuco that are going to be preserved for future generations," the Court asked: "How can we be sure?"

> Counsel: Well, Your Honor, all I can say is that if the public owns the lands –
> Court: Well, the public doesn't now.
> Counsel: Well, Your Honor, I think actually the record is to the contrary?
> Court: Pennsuco?
> Counsel: Yes, Your Honor. The public –
> Court: A great part of it –
> Counsel: Your Honor, there is approximately 13,000 acres in the Pennsuco. Approximately a third of that is already owned by the Government is my understanding.

Tr. 7263. Approximately 37% of the Pennsuco already was in public ownership prior to

email between Corps staff members supports this proposition:

> You can go outside of the [Pennsuco] basin without modifying the Corps permits. The Lake Belt Plan 'Phase II Plan' report on page 18 lists the 'priority ranking of locations of off-site mitigation,' Pennsuco is first. However, the Corps decision document discussed the benefits of acquiring the Pennsuco lands, so if you don't buy the Pennsuco, you will run into the problem that you have implemented something different from the ecological benefits that were described in the decision document. The decision envisioned the Pennsuco occurring PLUS . . . in addition . . . 'other mitigation'. So PLEASE don't take the pressure off the Pennsuco stuff . . . or if you do, you will have to do an elaborate re-analysis of the mitigation plan as an amendment to the ROD! Now the permit instrument provides you can adjust the mitigation plan at the first review period.

SAR1277 (June 5, 2003, email message between Corps staff) (emphasis added).[226]

Despite this clearly stated preference for lands in the Pennsuco, the Corps has readily approved permit modifications with respect to mitigation requirements, i.e. requirements which should be enforced rather than amended.[227] The Defendants have

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the issuance of these permits in April 2002, with another 25% identified as "District-Pending, District Mitigation, or District - City National," i.e., apparently under the control of SFWMD. FAR61 (Ownership Status of Pennsuco Wetlands, March 18, 2002). Rinker still owns 1700 acres in the Pennsuco, Tr. 5847 (William Glusac), (i.e. more than 13%), and is the only permittee with property in the Pennsuco, Tr. 334 (Llewellyn). It is unclear what efforts have been made to acquire that land from Rinker.

[226]The decision to focus mitigation in the Pennsuco was based on several factors. For example, the wood stork foraging habitat should be restored in a location which provides true mitigation. In response to a colleague's remark that a portion of the Lake Belt "seem[ed] to be a popular spot for birds - even woodstorks!," SAR1235, a senior Corps staff member said "[that's one] reason I want mitigation to stay within the Lake Belt area . . . not far away . . . ." SAR1235 (email message between Corps staff).

[227]A new condition, added to the permits in response to the Biological Opinion, Plaintiffs' Exh. 244 ¶16, creates even more uncertainty as to whether, or how much of, the Pennsuco will in fact be converted to public ownership. In light of the admitted problems with the cost of acquiring property in the Pennsuco, the Corps has indicated that "[I]f lands are not available for acquisition, preservation and maintenance," the permittees' mitigation plan now "may include alternative, equitable mitigation options outside of Pennsucco [sic]." Docket No. 325, filed November 22, 2006, "Permit

advised the Court that "[I]f the Corps determines that the mitigation has become inadequate, the permits will be modified to ensure adequate mitigation." Docket No. 350. However, the next scheduled review of these permits by the Corps does not occur until near the end of the permitted "10 year" period. A former elected official who was called to testify on behalf of Intervenors said:

> I believe anything that the Court needs to do to ensure [that the entire Pennsuco be acquired by the public and managed from a fund paid for by the mining companies] is entirely appropriate . . . . My strong commitment is to see that the rock miners do what they claim they were going to do, and that is to make sure that [the entire 13,000 acres of the Pennsuco are] added to the permanent protection of the Everglades by public ownership, and I will be very disappointed if there's any question about that going forward.

Tr. 3448-49 (Richard Pettigrew). The Corps evinces a disregard for the public participation requirements of the CWA and NEPA when it modifies permits without first alerting the public to substantial changes, e.g., significant alterations in mitigation requirements. The failure to provide adequate mitigation for lost wetlands indicates that the Corps' public interest review, 33 C.F.R. § 320.4(a)(1), was flawed.[228]

Modification."

[228]Despite the already insufficient mitigation provisions in the permits, the permittees advocated in January 2003 for more favorable terms. The permittees sought "the same mitigation deal that developers receive" – e.g., the mining companies' fee per ton goes up to pay for any increase in cost of land, etc., but in permits issued to developers, the Corps requires that the developer provide a specific number of acres of restoration, the value of which is paid to the SFWMD (presumably before the work is completed). If there is a shortfall in acres of mitigation, it is unclear who makes up the shortfall "SFWMD or the developers?" SAR 1230 (email between two senior Corps staff members, January 2003). The permittees sought these more favorable terms for mitigation even though there was incomplete mitigation remaining from the impacts of prior mining under their earlier permits.

> By the first review date (Apr 04) the miners are suppose [sic] to have worked out

The controversial "land swaps" reveal that permittees who have transferred property in the Pennsuco to public ownership, i.e., Florida Rock and Tarmac, have done so only in exchange for other property to be mined.[229] It is unclear what appraised values were utilized for those permittees' acres in the Pennsuco, or in other areas in which mining is prohibited under the permits. For example, on Nov. 25, 2003, the State of Florida approved a land exchange in which the state gave permittee Florida Rock 238.9 acres located in areas where mining is allowed in exchange for 202.5 acres from the mining company, all of which are in areas where mining is prohibited.[230] Another

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> with us the quantity and how to provide their 'mitigation debt' . . . that is, how many WRAP units they owe us for mining prior to the new permits . . . the 29 old permits each had mitigation requirements and they only mined out only a partial amount of the total area of lake authorized . . . so we have to pro-rata the total mitigation required. If all the companies agree to do it in the Pennsuco &tc. [sic]. . . I think they will but if 90% of the debt, say, is Rinkers, then the other companies may re-think . . . then will add to the 'impacts' that have to be covered by the mitigation committee.

SAR 1276 (email between two senior Corps staff members, June 2003). Apparently some of the mitigation required under the prior permits was designed as (or the Corps allowed it to evolve into) an "end of project" goal rather than requiring that mitigation occur contemporaneously with the impacts of the mining.

[229]The exchange of lands between the mining corporations and the State of Florida did not appear to be dependent upon these permits, and may have been done according to fair market value appraisals. If so, it may be improper to consider the acquisition of those exchanged lands as a benefit of the permitted activity. The Court notes with some concern that Rinker still owns 1700 acres (of 13,000 total). Florida Rock and Tarmac exchanged theirs for other mine-able land in the Lake Belt.

[230]Of the 202.5 acres transferred from Florida Rock to the State, 160 acres are located in the Pennsuco and 42.5 acres are within the 60-day mining setback line – none of which were permitted to be mined in any event. The acres received by Florida Rock from the State include 90 acres in Section 15 of T53S, R39E (maps identify mining sites by Townships, Ranges, and Sections), located just west of the present 60-day setback line, and 148.7 acres in section 9 of T53S, R39E, immediately east of the

permittee, Tarmac, traded 320 acres of land it owned in the Pennsuco for mining-eligible land from the State of Florida.[231] These land exchanges raise questions as to whether the Corps is adequately monitoring the mitigation requirements to ensure land is being acquired in the Pennsuco.[232] The Court has doubts as to whether the mitigation being attempted at this point even remotely resembles the mitigation announced in the permits.

Pennsuco. Plaintiffs' Exh. 160. The terms of the exchange included a provision that Florida Rock grant the County an exclusive and irrevocable option to Purchase the properties in Section 15 – presumably in the event that the wellfield protection ordinance was amended to include those 90 acres within the area in which mining is prohibited. If the County exercised the Option to Purchase, the purchase amount for the properties was the then-current appraised value of $10,000 per acre. The option to purchase was not exercised before it expired on March 15, 2006. SAR1307 (news article regarding land exchange with Florida Rock).

[231]Tarmac received 270 acres in Section 3 of T53S, R39E from the State in exchange for 320 acres of land in the Pennsuco that was owned by Tarmac. Tr. 5008-09 (Townsend). In 2004, William Brant, then Director of WASD, attempted to negotiate a land exchange with Tarmac for the purpose of acquiring $70 million (this estimate did not include operation or maintenance costs) for necessary water treatment plant upgrades. He predicted that the modification of the County's wellfield protection ordinance would eliminate mining rights in the section that Tarmac proposed to swap. The negotiations were not successful, in part because a competitor, Lowell-Dunn (also a permittee, although not included in this challenge to the permits), offered a similar land exchange to the County for twice the amount of money, i.e., $140 million to be paid to the County. There is no information in the record as to why the Lowell-Dunn transaction was never completed.

[232]"[M]iners gained control over lands in the mining-appropriate areas," Tr. 3287-90 (Llewellyn), which were outside the "10 year" footprint but within the "50 year" proposed footprint. The permittees have the right to sell this property at fair market value if they aren't allowed to mine all of the acres. As the Court noted in its Order of March 2006, "nothing in the permit makes them sell their land [to the government]." Tr. 3335 (Llewellyn). The witness who testified from the Florida Department of Environmental Protection ("DEP") testified that permittee Rinker's land in the Pennsuco [1700 acres of it] is "one key that they have to making sure that we all stick to the plan and make sure it moves forward." Tr. 3335 (Llewellyn).

As a general matter, the Corps apparently is aware of its questionable record of wetlands permitting in South Florida. The Statement of Finding ("SOF") for Regional General Permit SAJ-86, dated June 30, 2004, includes the following:

> Northwest Florida is environmentally pristine with little development when compared to other parts of the State. With the increasing development pressure, it is expected that without some proactive environmental approach, the landscape would be fragmented, and densely developed, mirroring many areas found in South Florida.

P. 16 of SOF, Exh. 4 to Docket No. 52, Case No. 3:05-cv-00362-TJC-TEM, Natural Resources Defense Council v. United States Army Corps of Engineers (also page 3816 of the related administrative record in that case). This statement by the Corps is noted by Judge Corrigan in his decision to approve the Corps' actions (issuance of a regional general permit for housing development in northwestern Florida) "by the slimmest of margins." Sierra Club v. Army Corps of Engineers, 464 F. Supp. 2d 1171, 1176 (M.D. Fla. 2006). "[T]he Corps [felt that] its experience in South Florida ... left wetlands insufficiently protected." Id. at 1228.[233]

The record before the Court in this case reveals that the Corps failed to include sufficient plans for mitigation in these permits. This failure exposed those plans to

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[233]The Court notes that the Jacksonville District of the Corps, the District responsible for these mining permits, was specifically mentioned in the GAO Report.

> In December 2001, the Corps approved a 2,100-acre mitigation bank in Florida to restore native tree species and enhance the site's hydrology. The agreement between the Corps and the mitigation bank sponsor required the sponsor to submit annual monitoring reports to the Corps for 4 years. The file contained no evidence of any monitoring reports submitted by the sponsor or compliance inspections conducted by the Corps.

GAO Report, p. 20.

requests for substantial changes by the permittees and left the Corps with few enforceable terms. That result supports this Court's conclusion that these permits suffered from fundamental flaws when they were issued and that those flaws have not been remedied; consequently the mining pursuant to these permits must stop until the SEIS is completed.

The long awaited littoral shelves

A senior Corps staff member admitted that the permits' requirements relating to the construction of shallow borders, i.e., littoral shelves, along the quarry pits "[are] an example of where [the Corps] did not get the 'detailed monitoring plan' into the permit before issuance." SAR 1280 (email message between Corps staff members, June 2003). This appears to be yet another violation of the Corps' governing regulations which require that permit conditions be "reasonably enforceable." 33 C.F.R. § 325.4(a). As part of their mitigation requirements, the permits required the mining companies to submit a design proposal for the construction of littoral shelves based upon data from existing littoral marshes before April 2004, and then to construct littoral shelf wetlands prior to the expiration of the permits in 2012. In the "Three Year" review report, the Corps notes that the EPA has approved of the permittees' proposed littoral shelf design. It also notes that the Corps "plans to determine, no later than 31 December 2009, the exact locations of the littoral shelf mitigation" to be constructed.[234] A Corps staff

[234]DERM staff criticized the first drafts of proposals from the permittees, e.g., SAR 1199 (October 30, 2002, letter from mining consultant regarding Littoral Marsh Demonstration Project), regarding the collection of data for the development of the

member, after having first announced an intent to "rely pretty heavily on [noted expert] George Dalrymple, since he's the one on our [Lake Belt Mitigation] subcommittee . . . with the most field time in the Lake Belt area . . . and . . . he was one of the evaluators for the . . . process that determined the functional values of, for instance, the littoral areas as contemplated in the permits." SAR1270 (message from Corps staff member to DERM staff member, May 27, 2003),[235] then ignored Mr. Dalrymple's strong criticism; the Corps staff member noted that the report simply was "not the best thing I've ever seen, but I feel like we just need to finalize and move on." SAR1278 (email between Corps staff members, June 2003). This suggests that, yet again, the Corps chose expediency over enforcement. The NEPA CEQ regulations mandate that federal agencies will use "existing credible scientific evidence," 40 C.F.R. § 1502.22(b) and "accurate scientific" information, 40 C.F.R. § 1500.1(b). The Corps' rush to judgment

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littoral shelf design. "The sampling plan is inadequate and poorly designed. The goals are never stated. One sample per site per season is insufficient and will not permit statistical sampling, etc." SAR1253 (message from DERM staff member, Feb. 2003); see also SAR1208 (message from DERM staff member, Nov. 2002).

[235]George Dalrymple submitted harsh criticism of not only the permittees' original proposal, but also the revised proposal submitted in February 2003.

> [The proposal is] no better than the first version. They are completely missing the point of the monitoring. They were supposed to have the first 9 years to come up with a good design of littoral shelves, and it was supposed to benefit wood stork foraging - that's what the permit said. The [proposed] scale at which they evaluate these littoral zones will never make it clear how to design them for wood stork foraging. They don't even have a schedule for monitoring wading bird foraging use during the best/most important time of the year to see such foraging. The whole thing is a mess! The FWS should kick some but [*sic*] on this, and let the corps [sic] know the study is limp.

SAR1262.

guarantees neither of these regulatory directives will be followed.

Groundwater seepage issues

The Court's previous Order addressed the insufficiency of the Corps' analysis of the potential seepage impacts of the mining activity and found that the Corps' failure to consider these indirect effects[236] rendered the EIS "fatally flawed." Sierra Club, 423 F. Supp. 2d at 1319.[237] Testimony and additional evidence supports the Court's earlier conclusion. The record to date clearly illustrates that the groundwater in the area of the Lake Belt moves generally toward the east, that the void left when the mining pits are excavated reduces the amount of natural resistance to seepage that is observed when the limestone rock is left undisturbed, and that there are ongoing studies regarding the cost and effectiveness of various proposals for the mitigation of seepage. This eastward movement is driven, at least in part, by the higher water levels in the Water Conservation Areas and in Everglades National Park (located immediately to the west of the Lake Belt mining areas).

> The highest water levels in Dade County are maintained in Water Conservation Areas 3A and 3B. The September average water levels are about 10 to 11 ft

[236]Indirect effects include those that will occur later or at some distance, as long as they are reasonably foreseeable. 40 C.F.R. § 1508.8. It appears certain, from the record before the Court, that mining will have an effect on groundwater seepage near the area of the mining – what is not clear is how significant the impact will be, particularly in the context of projects proposed with CERP.

[237]The Corps was aware, when it issued the permits, that the question of mitigation for seepage impacts was unanswered. "In 3 years we have to (as part of the 3 year review required by the permit) discuss how the industry is mitigating groundwater seepage." SAR1223 (senior Corps staffer to another Corps staffer).

> above sea level along the Dade-Broward County line in Conservation Area 3A, and about 7 to 8 ft above sea level in Conservation Area 3B . . . . During the wet season, ground-water seepage from the water-conservation areas is partly captured by the peripheral canals, but large quantities of water pass under the canals or across the canals, especially through openings in the south bank of the Tamiami Canal. From a regional perspective, ground water moves eastward or southward from the water-conservation areas to the sea. Canals, control structures, or large well fields cause local variations in flow pattern. Although the highest monthly average water levels occur in September, nearly all of the urbanized areas of Dade County have water levels less than 4 ft above sea level during that month. The lowest water levels are within the cones of depression around the major well fields . . . . low coastal water levels and the low, but continuous, seaward gradient . . . indicate the very high transmissivity of the aquifer, the high degree of interconnection between the aquifer and the canals, and the effectiveness of the present canal system in rapidly draining floodwaters . . . . The contour map of average water levels for April, near the end of the dry season, indicates the same ground water flow pattern as under wet-season conditions. However, the average water levels and the water-level gradients are lower in the dry season than in the wet season . . . . The largest declines (about 2-3 ft) occurred from the area east of Everglades National Park to just east of Krome Avenue.

Hydrogeology of the Surficial Aquifer System, Dade County, Florida, USGS Water Resources Investigations Report 90-4108, dated 1991, by Johnnie E. Fish and Mark Stewart, pp. 44, 47 (citations omitted). The Corps' failure to study this issue in more detail prior to authorizing these mining permits in April 2002, violates the NEPA CEQ regulations, 40 C.F.R. § 1502.22(b) and 1500.1(b) which require the use of credible scientific evidence and accurate science. As noted above, the Corps has failed to provide for adequate mitigation of groundwater issues, in violation of 40 C.F.R. § 15-2.14(f). The 404(b) Guidelines also require that the Corps account for obstruction of groundwater flow, and any changes in the hydrological regime, 40 C.F.R. § 230.11(b); this includes consideration of currents, and substrate characteristics, 40 C.F.R § 230.11(e).

ENP noted that the mining was proposed to be as close as 1,000 ft to the L-31N levee, which would directly impact the hydrologic conditions in the adjacent marshes of ENP, and that "mining has never been permitted this close to a primary water supply conveyance canal, such as L-31N." AR825. Mining in the first ten years is permitted as close as 1,000 ft from the L-31 canal. AR977 (email between Corps staff and others, dated February 15, 2002) ("[W]e are only permitting ½ of the 2,000 ft buffer [in which ENP objects to] mining." AR977.) During the hearing, Intervenors' counsel referred to the following statement in the 2006 modification to the Kendall Properties' permit:

> The overall permitted acreage for fill has not expanded beyond that originally authorized. The modification must be completed in accordance with the . . . enclosed construction drawing which replaces [the drawings] from the original permit.

Plaintiffs' Exh. 73 (April 18, 2006, permit modification). The Court has compared the two drawings, and concludes that the "10 year mining plan" revised July 2005 (attached to the 2006 permit modification) appears to allow mining further to the western edge of the property than did the "10 year mining plan" map included with the original permit, AR1047, p. 24. The original permit specifies that

> no mining will be permitted within 2000 feet of the L-31N levee until June 30, 2004, while the Corps continues to refine its seepage analysis in this area. If the land within this 2000-foot strip covered by this permit is not purchased for a public purpose by June 30, 2004, mining is permitted to proceed. If at anytime after June 30, 2004, the Corps determines this land is necessary for a public purpose, mining will continue until the purchase is complete.

AR1047, p. 10.

The Court understood the testimony of Dr. Punnett (and others who addressed seepage issues) to be, essentially, that while the mining lakes will have an effect on

seepage, it isn't clear yet how much of an effect the lakes will have. Also, it is possible that even if the mining lakes increase groundwater seepage significantly, it may not have a harmful effect because some seepage is beneficial to the system, i.e., by keeping saltwater from intruding in the Aquifer or keeping freshwater from leaving the conservation areas. The witnesses also testified that the planning for Everglades restoration projects suggests that the presently engineered hydrological system (canals, pumping stations, etc.) will change significantly, possibly rendering many of the results of the present seepage models less than useful. Tr. 3707-15 (Dr. Richard Punnett). The Court will address a select few other aspects of the seepage issue below, but at this point is unable to determine anything other than that the Corps must not ignore the issue of seepage. The Corps must assure the public that the seepage impacts from already existing mining pits – including those recently added and any others to be added – are being adequately mitigated for, if necessary.[238]

The Court also has been advised that the Everglades restoration planning process is evaluating the potential impacts of seepage throughout the system. The L-31N canal running along the eastern edge of the Everglades National Park and to the west of the Kendall Properties Krome Quarry (mined by Rinker), contributes to the seepage from the Park. At least one seepage mitigation proposal includes installation of a barrier underground between the canal and the adjoining property or quarry pit. Other projects being proposed through the Comprehensive Everglades Restoration Plan

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[238]Perhaps appropriate regulators and those developing the regional restoration plans will address any seepage impacts which already have occurred or may occur because of the quarry pits.

("CERP") process include raising the canal height, or introducing additional water from the regional system. The likelihood of success of the latter proposal seems to be limited by current restrictions on withdrawals of water from the regional system. Miami-Dade County's request to increase its withdrawals of fresh water from the Biscayne Aquifer and the regional water supply by approximately 30% over its current 346 MGD was denied a few years ago by the State.[239]

In sum, while it appears that analysis is occurring regarding the acknowledged effects of the quarry pits on seepage, the permitted mining activity has continued without change – rendering it difficult to establish baselines against which impacts may be measured and mitigation required. The mitigation fee imposed on Kendall Properties for seepage impacts generates approximately $50,000 annually, or approximately $380,000 over the course of the permits (based upon an estimated 535 acres of impacts times

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[239]Plaintiffs' economist suggested that the permittees' mining operations consume approximately 10% of the entire amount of freshwater withdrawn from the Aquifer in Miami-Dade County for public consumption. Tr. 1972 (Weisskoff). According to data compiled by the USGS, water users in Miami-Dade County withdrew 394.29 MGD in 2000 for "public supply" and 41.65 MGD for "Commercial-industrial-mining" (a category which includes mining and other industries). Plaintiffs' Exh. 112. Drafts of SFWMD staff reviews of some of the permittees' State Water Use Permit applications from 2004 and 2005 indicate that more than 60 MGD is drawn from the Biscayne Aquifer by just these three permittees: Rinker, Florida Rock, White Rock (with an even higher permitted capacity available). Intervenors' Exh. 19. (If the other permittees' water usage was included, this number could easily exceed 70MGD.) Miami-Dade County presently is authorized by the state, SFWMD, to withdraw 347 MGD from the Aquifer; thus, it appears that mining under these permits is responsible for nearly 20% of the entire daily amount of water withdrawn from the Aquifer. Although Intervenors' consumptive use permits estimate that 90-95% of the water seeps back into the Aquifer after it is used for washing the mined rock (which suggests that the quantity of initial withdrawal may be less significant than it first appears), this is yet another example of mining impacts which appear to have been ignored by the Corps. Intervenors' Exh. 19.

71,428 tons per acre mined each year by Rinker). Tr. 5775 (Glusac). This amount seems somewhat meager in comparison to the costs of the construction and restoration projects that have been discussed in this case. The Corps, therefore, has failed to require adequate mitigation as of this date. Again, it appears that the Corps has evolved its mitigation-related requirements throughout this process with seemingly little attention to their governing regulations and statutory duties while exerting far greater attention and resources on expediency for the benefit of approving continued mining. As one of the Intervenors' witnesses suggested, the Court "could require monitoring to see if seepage, in fact . . . has been exacerbated, and that appropriate steps would have to be taken . . . to mitigate for that." Tr. 3428-29 (Pettigrew). While the Court finds that additional monitoring undoubtedly would be helpful, the Court's proper role at this time is to vacate these permits and direct the agency to monitor the seepage that has occurred.[240]

IV. Defendants' lack of compliance with ESA, NEPA, and the CWA resulted in the "take" of wood storks through foraging habitat destruction; Defendants also failed to recognize that other protected species are in the mining area

Plaintiffs prevailed on their claims that the Corps and FWS erred by deciding not to enter into formal consultation under the ESA regarding the potential impact on the wood stork population and by not taking required steps to protect other species. Order, 423 F. Supp. 2d at 1368-79. In the "Three Year" review report, the Corps maintained

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[240]Perhaps appropriate regulators and those developing the regional restoration plans will address any seepage impacts which already have occurred or may occur because of the quarry pits.

the position, which already had been criticized by the Court as problematic, that the mining plan was "not likely to adversely effect the wood stork." Docket No. 103.

The Corps subsequently has published a Biological Assessment, Docket No. 240, filed August 28, 2006 ("BA"), and the FWS has completed its Biological Opinion, Docket No. 241, filed September 1, 2006 ("BO"), which announces that – unsurprisingly – the wood stork will be adversely affected.[241] The Biological Opinion makes a specific statement as to the "take" of the species[242] which is occurring from the ongoing mining. FWS estimates that mining "will result in reduction in the production of as many as 1.8 wood storks per year, which equates to 18 nestlings over the duration of the 10-year permit." BO, p. 59.[243] Of the 1400 nests in the Tamiami West wood stork colony in

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[241]Neither the BA, nor the BO, are before this Court for full judicial review, as they have not yet been challenged through the administrative process. Reference to these agency documents in this Order reflects no opinion of this Court as to their legitimacy.

[242]"'Take' is defined as 'harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.'" BO, p. 58.

[243]Nestlings are the young chicks. Fledging means "raising the young chicks to the point at which they leave the nest, with an average of 1.5 chicks per nest." Tr. 900 (Dr. Dale Gawlik). This equates to the loss of the productivity of 1.4 nests per year – note that a mating pair of wood storks tend to produce only one to two live chicks each year – in other words, at least one wood stork pair will not yield offspring each year that this mining continues. According to FWS, the number of wood stork nests in the three wood stork colonies in the Lake Belt area has ranged from a low of 0 in 1996 and 1998, to a high of 1450 in 2001. In 2002 only 355 nests were observed, and in 2003 the number had increased to 460; but in 2004 and 2005 only 130 were observed each year. A total of 412 nests were observed in the 2006 season. Tr. 3074 (Souza). To place these numbers in perspective, there must be an average of 2,500 nesting pairs annually in this region (which includes the Everglades and Big Cypress area) over a five year period, with 1.5 chicks per year per nest, in order to remove the species from the endangered list. In 2006 the region had slightly more than 2,710 nesting pairs, and in 2005 the region had only 634 pairs. BO, p. 25, Table 2.

2001, "it's quite likely that most of those failed." Tr. 899 (Dr. Gawlik).

These losses will occur because mining over the "10 year" period "will result in the direct loss of about 4,521 acres of wetlands, of which 1,281 acres are considered suitable for foraging by wood storks" due to the location and particular qualities of these wetlands. BO, p. 57.[244] Generally, wood storks forage in wetlands within 25 km (approx. 15 miles) of their colony site; the Lake Belt area east of the Pennsuco wetlands (which are located along the western edge of the central Lake Belt area) is within 25 km of a colony of wood storks identified as the Tamiami West colony. Tr. 820-22 (Dr. Gawlik). The Biological Opinion reports that, even after accounting for mitigation to date, there is a predicted "net loss of 181 acres [of very short hydroperiod wetlands, which may be very desirable foraging habitat]." BO, p. 59.[245]

The Biological Opinion explains that because wood storks seek areas which are not covered with a dense tree canopy and hunt for food in shallow wetland areas where fish concentrate during the dry season, experts classify wetlands with dense melaleuca as less favorable for foraging than wetlands without such tree coverage. Dr. Dale Gawlik, who has impressive credentials as to research on wading birds and their habitats in South Florida,[246] testified that the most important factors are the proper water

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[244]"No critical habitat has been designated for [the wood stork]; therefore, none [i.e., no critical habitat] will be affected." BO, p. 58.

[245]The Court's citation of the Biological Opinion is for general information only and is not intended as any level of judicial review of that document – as it has not yet been presented for review through a challenge by the Plaintiffs.

[246]Dr. Gawlik's testimony was somewhat more persuasive than that of Intervenors' expert, John Ogden, as to the question of wood stork habitat. Mr. Ogden

depths and food density. Tr. 831. In addition, wood storks selectively use different wetlands depending upon the extent of drying of the area. P. 16. Dr. Gawlik testified as to his extensive research on the wood stork and his findings regarding the difficulty of the birds' search for food. Tr. 817 (Dr. Gawlik). "They depend in South Florida on these concentrated patches of prey. These animals are not particularly efficient feeders when prey are dispersed, but they're very efficient when prey are concentrated." Tr. 819 (Dr. Gawlik).

The Biological Opinion was issued just ten days after senior FWS staff member Paul Souza testified to this Court that the impact of the mining activity planned for the period leading up to late 2007, i.e., when the SEIS is due to be completed, "is impossible to measure and certainly would not rise to that level of injury or death that I mentioned previously." Tr. 3078 (Souza). Mr. Souza based his testimony on his visit to each of the sites where the permittees indicated that they would be mining in the next 18 months. According to Mr. Souza, "it's a combined situation, where it's a function of where those lands are in the mining sequence and Melaleuca." Tr. 3129 (Souza). Noting that the wetlands to be mined in the next year and a half had "largely been impacted already by some part of that sequence of mining or have a significant amount of Melaleuca," Tr. 3073 (Souza), Souza testified that there will be no adverse effect.

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was impressive, particularly because of his forty years' of experience studying wood storks as part of his official duties at various government agencies in South Florida, including the Everglades National Park, the South Florida Water Management District, his current employer. Mr. Ogden recognized Dr. Gawlik as "a leading expert on the foraging behavior of [wood storks] in South Florida," and noted that Dr. Gawlik's research work is funded in part by the program managed by Mr. Ogden at SFWMD. Tr. 3597-98.

The Court finds this reasoning troubling. The failure to perform an adequate environmental analysis before these permits were issued created the presently observed situation; acres of wetlands – perhaps what would have been suitable foraging habitat – now are denied protection because they have "been impacted already." Tr. 3073 (Souza). Defendants' actions have violated the ESA, the NEPA, 42 U.S.C. § 4332(c)(i), and the CWA, 33 U.S.C. § 1344(c), as each of these statutes require agencies to take endangered species into account.

The Defendants have failed to acknowledge that additional clearing and wetlands destruction continues under these permits; this Court previously rejected Defendants' attempts to use the "already degraded wetlands" argument to justify the continued mining. Sierra Club, 423 F. Supp. 2d at 1295 n49, 1330, 1373 n275. Such self-generating justification for further destruction is simply improper in the context of the facts of this case and in light of the important regulatory duties being neglected by the Defendants. As noted by Plaintiffs' counsel in closing arguments, the CWA protects all wetlands.[247] "Most wetlands constitute a productive and valuable public resource," 33 C.F.R. § 320.4(b)(1), and, specifically, those wetlands "which serve significant water purification functions" are considered to "perform functions important to the public interest." 33 C.F.R. § 320.4(b)(2)(vii).

Souza testified that "roughly a thousand acres of wetlands had been mined, had

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[247]"The Clean Water Act does not protect only what the Intervenors have decided are unique or irreplaceable wetlands. The Clean Water Act makes a national policy determination that all wetlands of the United States are a unique and irreplaceable resource until the standards for having them be filled and destroyed are satisfied." Tr. 7311.

been impacted" through 2005, Tr. 3093, "[a]nd I believe through that time maybe a similar number, maybe a thousand acres had been cleared. But . . . I'm not certain." Tr. 3093 (Souza).[248] Clearly, if the proper level of analysis had been performed prior to issuance of the permits then wood stork foraging habitat could have been conserved from among the more than two thousand acres of wetlands which have been destroyed as of this date. Moreover, the NEPA CEQ regulations mandate that these type of permitting decisions be based on "existing credible scientific evidence." 40 C.F.R. § 1502.22(b). The lack of specific information about the number of acres of suitable habitat is just one example of the Defendants' failures to properly consider the protection of this endangered species, in violation of the ESA, NEPA, the CWA, and the respective regulations, e.g., those governing the Corps, 33 C.F.R. § 320.4(a)(1), as well as the CWA 404(b) Guidelines, 40 C.F.R. § 230.10(c)(1).

Despite earlier predictions that no protected species were involved in this area,[249]

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[248]Souza testified that on May 31, 2006, he visited each site where the "precise mining impacts were going to be . . . in the 18-month interval [from the date of this Court's Order in March 2006, to October 2007, the date by which the SEIS was anticipated]," Tr. 3070 (Souza), and "we were very methodical in visiting each of these sites to clearly see where those impacts would be over that period. And because of this sequence of mining activities that I mentioned . . . [i]n many cases much of the area has been significantly impacted by some part of that sequence. In other cases there generally speaking is a significant amount of Melaleuca." Tr. 3077 (Souza).

[249]A senior FWS staff member who testified before this Court acknowledged that one of Plaintiffs' witnesses, Nancy K. O'Hare (formerly Nancy K. Dalrymple), was a co-author of the most extensive wildlife survey of the Lake Belt area. Tr. 3158 (Souza). This study was published in 1996, Plaintiffs' Exh. 42, by Nancy K. Dalrymple and George H. Dalrymple, "The Wildlife Studies of the Lake Belt Area of Northwestern Dade County, Final Report, June 1996." Despite the inclusion of this study in the Corps' Administrative Record, AR276 (draft of the final report), AR614 (final report, found at Appendix D of the EIS), and the specific statements in the study regarding the

the Corps now has identified the threatened eastern indigo snake, but concluded that the mining activities "may affect, but [are] not likely to adversely affect" the snake. BA, p. 9. In addition, FWS identified that the endangered Cape Sable seaside sparrow and the endangered Everglade snail kite may occasionally be present in habitats near the project area. FWS concluded that the proposed mining activities "may affect, but [are] not likely to adversely affect the Cape Sable seaside sparrow, the Everglade snail kite, and the eastern indigo snake." BO, p. 4. Recall that in March 2002, the Corps' Revised Public Notice regarding the permits for the ten years of mining stated that the proposed project was "not likely to affect any known federally listed threatened or endangered wildlife species or their critical habitat." AR737. For the Defendants to base the issuance of these permits in 2002 on their assertions that no protected species were likely to be affected, and then – after being forced to comply with their own regulations by this Court – to determine that three endangered species and one threatened species may be affected by the very same mining that previously was studied, leads to little confidence in these agencies. Moreover, these same mining activities which were predicted to be harmless now, strikingly, support a finding of a "take" of the endangered wood stork – all of which suggests that little deference to these agencies' actions in this case is required by this Court.

The Court also is surprised that the Corps frequently modified these permits, shifting mining footprints of several of the mining sites to "correct" earlier maps which

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presence of eleven protected species (under either federal or state regulations, or both) in the Lake Belt Study Area, the Corps and FWS still issued these permits on the basis of there being an absence of impact on any protected species.

were included in the permit documents but apparently were outdated.[250] The result is that while, for the most part, the total number of acres to be mined by each permittee stayed somewhat constant, a different footprint of mining was approved through these modifications all of which were done without consulting with FWS. In one modification, acreage in a neighboring section (the maps identify mining sites by Townships, Ranges, and Sections – which are one square mile, generally) is exchanged for acreage as much as a mile away. Tr. 2802-04 (Studt). It appears that these modifications to the mining footprints were approved without site visits or analysis of the specific types of habitats in the previously excluded acreage which is being added to the permits.[251]

According to the witnesses who testified knowledgeably about wood storks, the species forages as far as several miles away from its nest and each nest requires

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[250]For example, a modification of Florida Rock's impact footprint was explained as follows: "original permit plan was based on April 2000 information, so since it took until April 2002 to get the permits generated, the phase timing is off and minor changes to the footprint are needed." SAR 1289.

[251]In essence, the Corps' frequent permit modifications in order to "shift" mining footprints or to "revise drawings for consistency," BO, p. 12, include an implied determination that there would be "no effect" on the wood stork or other protected species – which appears to violate the requirement that the Corps, at a minimum, obtain written concurrence from FWS for the proposed action. 50 C.F.R. § 402.13(a). The Corps has indicated that these modifications were made only for acreage of "identical habitat quality," Tr. 2662 (Studt), but also states that "since the area was not open canopy, we . . . determined that there would be no affect [sic] and there would not be a need to consult [with FWS]." Tr. 1660 (Studt). However, wood storks will forage in wetlands with melalueca infestation as great as 75%, so the Corps may have applied an improperly narrow test as to what constitutes potential foraging habitat. "Canopy closure occurred when mature melaleuca tree cover increased beyond 75%." Plaintiffs' Exh. 42, Nancy K. Dalrymple and George H. Dalrymple, "The Wildlife Studies of the Lake Belt Area of Northwestern Dade County, Final Report, June 1996," included as Appendix D of the EIS. This error in assessing suitable foraging habitat might have been avoided if the Corps, at a minimum, had conferred with FWS.

approximately 440 pounds of prey (comprised primarily of small fish) to support the chicks.[252] According to the witness who testified on behalf of FWS, and the Plaintiffs' expert, Dr. Gawlik, the nesting season begins at any time from late November through March, Tr. 3073 (Souza), Tr. 1034 (Dr. Gawlik), and the success of the nesting season is a function mostly of natural rainfall and hydrology, as well as human impacts on the hydrology of the environment.

> In the years where we've had really low numbers, what we've seen is there has been an unseasonable rainfall in the dry season, after the nesting season had begun. So the birds came in and they attempted to nest, and then the water came through at a very high level which caused the birds to abandon those nests . . . . hydrology is the predominant driver of this function.

Tr. 3074-75. "[I]t is reasonable to suggest the value of foraging habitat in the area for wood storks will be greater than the habitat available prior to mining activities outlined in the 2002 permits." BO, p. 60. The Court notes that this statement is conditioned on "[w]hen the full expected restoration and littoral shelves are complete" – a date which is at least several years in the future and may have little guarantee of ever arriving.

The senior staff member of FWS who testified before this Court said that he "[didn't] mean to paint an overly rosy picture. I mean, clearly habitat loss is a real issue . . . . But, you know, it stands to reason would wood storks migrate north [to North

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[252]Intervenors' expert John Ogden agreed with Dr. Gawlik's theory that wood storks feed in different places, under different conditions – described as the "checkerboard" concept, Tr. 3515, 3624, and only disagreed as to the quality of the foraging habitat available in the Lake Belt mining area. Mr. Ogden testified that wood storks have better sources of food in other areas so they would not rely on the Lake Belt primarily, but he admitted that there may be some areas in the Lake Belt with sufficient prey density to attract wood storks. Mr. Ogden's views were based on a "general impression of the area" and his experience with similar areas in the past four years. Tr. 3636.

Carolina] if South Florida habitat had not changed? I don't know." Tr. 3148-3149 (Souza). "[I]f you want to gauge whether wood storks are using short hydroperiods [wetlands] you need to look at that time [between November and March]," Tr. 3159. The witness admitted that the FWS "has not crafted or funded a Lake Belt mining footprint [wood stork] monitoring study." Tr. 3159 (Souza).

According to the Biological Opinion, this permitted mining will lead to the death of an estimated eighteen nestlings over the ten years of the permits. It is heartbreaking to realize, five years into these improperly issued permits, that nine nestlings already have been lost[253] – particularly when this Court and the public were assured by the Defendants that this mining was not likely to adversely affect the wood stork or any protected species. Sierra Club, 423 F. Supp. 2d at 1318-19, 1368-79. This result is directly attributable to the Defendants' violations of the ESA in the issuance of these permits[254] and provides additional support for this Court's decision that these permits

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[253]The lack of food resulting from the destruction of foraging habitat leads to the nesting pair making fewer trips to their nests to feed the young. "The amount of food they bring with each trip is less. Sometimes they have to fly tremendous distances to find that food, up to 70 kilometers. And what you will see is they simply get to a point where either energetically they can't meet their demands or timewise they can't do it, and they simply stop coming back." Tr. 817-18 (Dr. Gawlik). Dr. Gawlik testified that "as a biologist we see a lot of pretty ruthless things out there in nature . . . [b]ut one thing I can never get used to is seeing these chicks dying in the nest when the parents would abandon them. It's a pretty gruesome business." Tr. 818 (Dr. Gawlik).

[254]The importance of the species protection provisions of the ESA is underscored by the decision of the Supreme Court in Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978). In T.V.A. v. Hill it was determined that the risk of eliminating the population of the endangered snail darter by destroying its critical habitat was enough, under the ESA, to halt completion of a nearly completed $100 million dam. "It may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually

must be vacated.

V. Clarifying the impacts and analyzing alternatives, the "public interest" review

The Corps' decision to permit the mining despite the unavoidable adverse environmental effects detailed above, e.g., risks to municipal water quality and destruction of wood stork foraging habitat, was based upon the Corps' decision that the public interest was better served by the production and sale of this limestone by the permittees. The Corps' decision process exposes a fundamental flaw: the agency's failure to give full consideration to alternatives to mining at this time, in this area, and in this quantity.[255]

> [T]he economists . . . opined that if limestone mining is halted in the Lake Belt during the remand period thousands of jobs will be lost in Miami-Dade County. The record evidence also establishes that billions of dollars of output and income will be lost. Public construction projects like roads, schools, hospitals, jails, and bridges will fail or falter. The mining companies and those businesses dependent upon them or their products will be shut down. The CERP will be compromised. South Florida will fall into a recession. . . . The funding source for mitigation fees needed to restore the Pennsuco, and to augment the Miami-Dade County water treatment plant will be lost.

Docket No. 352, pp. 60- 62. These predictions of such extreme consequences,

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completed dam for which Congress has expended more than $100 million," Id., at 172 , but the ESA represents "a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies." Id. at 185. Congress subsequently amended the ESA in response to this decision, and the present version of the statute allows for exceptions in extraordinary circumstances (none of which are relevant to the mining permits at issue) for the ESA's absolute prohibition on destruction of critical habitat.

[255]The Corps' numerous violations of controlling regulations and statutory guidance as to the consideration of adverse environmental effects have been detailed above and in this Court's Order of March 2006.

scattered with exaggeration, rendered many of the Intervenors' arguments regarding "economic" impacts unpersuasive.[256] Indeed, this Court has spent excessive amounts of time discerning the actual facts from what the Intervenors have argued in their briefs – their dramatic statements virtually obscure the facts.

> The evidence demonstrated that the disruption that would be caused by any vacatur would be extraordinary – even under Plaintiffs' questionable economic scenarios, vacatur would cost thousands to tens of thousands of Florida jobs. In fact, the evidence was clear that far more than jobs would be lost; vacatur would cost the Defendant Intervenors hundreds of millions of dollars, would cost the Florida economy billions in lost productivity, would halt vital public works projects and, ironically, would halt or delay environmental projects from Pennsuco restoration to the Water Deliveries Project intended to protect and restore the Everglades. Balanced against this tremendous disruption and incontrovertible environmental harm is the rank speculation of Plaintiffs that mining during the remand period may potentially cause some unmeasurable increment of environmental impact.

Docket No. 352, p. 113 (emphasis added). The Intervenors' reference to "incontrovertible environmental harm" apparently relates to a possible delay of certain Everglades restoration projects;[257] however, it is unclear that such "harm" would be an

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[256]For example, in opening statements, counsel for Intervenors claimed that any curtailment of mining ordered by this Court would resemble a "nuclear explosion." Tr. 67.

[257]The Everglades restoration project includes several features which are recommended but have not yet been adopted. Docket No. 42, p. 9. The Court already has discussed the Defendants' somewhat exaggerated claims about the critical nature of this mining to construction and repair of the dike at Lake Okeechobee. Tr. 2954, 2956, 2958, 4861-64 (Burch). Defendants' witness notes that the Tamiami Trail Project, i.e., a bridge and roadway system designed to allow better flow of water into the Everglades National Park by passing under an elevated highway, needs concrete and road base materials which include limestone "which would generally come from mining in the Lakebelt region." Docket No. 350, p. 29; Tr. 2945-46 (Burch). The Court finds it Interesting that the Defendants express concern that rock won't be available to sustain development needs throughout the region, i.e., attempt to make a larger argument about the public interest, when their previous approach has been to

unavoidable[258] and direct result of this Court's decision to limit mining for a short term. At the hearing, Intervenors' counsel suggested that any potential decision by this Court to set aside these permits would be the same as a decision to grant an injunction.[259] In any event, the Court has crafted the remedy imposed in this Order, and the partial stay thereof, to allow a limited amount of the permitted mining to continue until the SEIS is completed.

Consideration of alternatives to the proposed mining, as required by NEPA

The Corps failed in its duty to "[r]igorously explore and objectively evaluate all reasonable alternatives" to the proposed mining. 40 C.F.R. §1502.14(a). The Corps'

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downplay the extent of the adverse environmental effects. As previously noted in this Court's March 2006 order, "it was inappropriate for the Corps to credit the mining permit applicants with stimulating economic growth but not to charge them with the costs suffered by the environment consequent to such growth." Sierra Club, 423 F. Supp. 2d at 1316 n.120.

[258]It looks like the Intervenors have replaced the "save Walt Disney World and Cape Canaveral" arguments with "save the Everglades" arguments – neither of which are particularly persuasive in light of their tenuous connection to the facts. Sierra Club, 423 F. Supp. 2d at 1297 n56.

[259]Intervenors' counsel argued that "if you vacate the permits, it's tantamount to granting the injunction," Trans. 7196. Intervenors and Defendants, however, repeatedly told this Court that the only question before the Court is what remedy is appropriate for the brief period of time until the Corps completes the SEIS. Moreover, Plaintiffs' opening statements were clear: "at the conclusion of this hearing, we will ask you to vacate the permits that are under review." Trans. 40. It may be that, as Plaintiffs have suggested, the Intervenors' constant reference to an injunction was strategic because it supported the introduction of extensive argument and evidence regarding the more significant impact that a permanent and total injunction would have on these mining companies than what would be realized if this Court only vacated these specific permits for the limited time until the SEIS is completed.

EIS and ROD included illogical and senseless statements, Sierra Club, 423 F. Supp. 2d at 1333, and it is clear from the record before the Court that the Corps never has identified the project's purpose with sufficient particularity. The state of this record, including the vagueness in the Defendants' descriptions of the precise impacts at issue in these permits, i.e., the number of acres to be destroyed and their specific locations, renders it impossible to assess properly any alternatives to the proposed mining.

The evidence presented at the remedies hearing did not cure the problem of vagueness in this record, e.g., it is still unclear precisely how many acres of wetlands will be destroyed under these permits. Sierra Club, 423 F. Supp. 2d at 1342-43. The Corps' casual approach with regard to the quantity of environmental impacts violates NEPA's requirement that permitting decisions be based upon accurate scientific analysis, 40 C.F.R. § 1500.1(b), as it is impossible to conduct accurate analysis if the facts themselves are inaccurate. It also seems unlikely that the Corps is monitoring the progress of the mining activity since, for example, the Corps has yet to consistently report the number of acres which have been cleared but not mined;[260] nor does there appear to be a consistent definition of "cleared" acreage.[261] The Court briefly addresses

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[260]If the permittees were not compiling their own reports as to the number of tons of limestone sold, it is unclear what source would be available to guide the Corps in the calculation of mitigation fees owed. In fact, it appears that the permittees' calculations are not verified by the Corps (at least certainly not by calculating the number of acres impacted and tons produced per acre); this raises numerous questions about the Corps' lack of concern as to compliance with the terms of these permits.

[261]The permittees refer to "Disturbed" acreage in their Lake Belt Annual Reports, the Corps refers to "cleared acreage" in the BA, and the FWS refers to acres "cleared of vegetation" in the BO. Testimony by the mining witnesses explained that there are several steps between clearing wetlands of vegetation, i.e., removing trees and plants,

the ever-changing who, what, where, and when of the mining pursuant to these permits.

Of the nine corporations receiving these permits in April 2002, three have been sold to other mining companies and two have leased their mining rights to other Permittees. Permittee/Intervenor Vecellio & Grogan, Inc., operating as White Rock Quarries ("White Rock"), purchased permittee Continental [262] for approximately $5 million in December 2004, Tr. 5563-64 (Hurley); White Rock also mines all of the property in APAC's permit pursuant to a lease agreement. Tr. 5564-65 (Hurley). Permittee/Intervenor Rinker (which mines all of the acres in Kendall Properties' permit) is in the process of being acquired by CEMEX (a Mexican multinational corporation).[263] Finally, Florida Rock recently was purchased by Vulcan Materials.[264] Thus, mining is being conducted by only six corporations: Tarmac, Sawgrass, Sunshine, White Rock, Vulcan, and CEMEX.

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and then actually mining the area. After devegetation, the miners remove the muck layer (a moist soil covering the top of the limestone rock); the muck is stockpiled into winrows and then removed from the site. Tr. 5578-80 (Hurley). A working pad for the mining equipment, including draglines, etc., is prepared by filling in a portion of the demucked area. Tr. 5582 (Hurley).

[262]At present, White Rock conducts no mining under the permits issued to Continental. Tr. 5578-79 (Hurley).

[263] "On June 7, 2007, CEMEX Australia Pty Ltd., a wholly-owned subsidiary of CEMEX S.A.B. de C.V., announced that it has received acceptances for more than 50 percent of Rinker's issued capital. CEMEX has declared its offer to be unconditional. Rinker's directors have recommended unanimously that, in the absence of a superior proposal, acceptance of the revise offer is in the best interests of Rinker's shareholders." www.secinfo.com/d11MXs.u1fDg.htm (last visited July 11, 2007).

[264]Vulcan initiated the acquisition of Florida Rock in early Dec. 2006. See SEC minutes of February 29, 2007, available at www.secinfo.com/dsvr4.u2dh.9.htm#1stPage (last visited July 11, 2007).

The Court previously noted that the Corps published inaccurate information about the impacts of Rinker (now CEMEX), the permittee with the largest mining footprint under these permits, and that such information was misleading to the public. Sierra Club, 423 F. Supp. 2d at 1366 fn257.[265] Unfortunately, nothing in the extensive evidentiary hearing demonstrated that the Corps has since obtained a firm grasp of the number of acres being mined or impacted. The ROD itself announces various acreages as to each individual permittee, AR1028, p. 6, explaining that

> [t]hree sources of the number of acres are used in this memorandum. This situation is the result of the long time that this project has undergone review. The first is the one prepared for the EIS and ... [describes] the "50 year" plan. The second is the analysis conducted by Biological Research Associates (BRA) used ... to describe the 10 year plan. The third is one prepared by Fortin, Leavy, Skiles, Inc. (FLS) provided to the FDEP for the permits for the 10 year plan.... The actual impacts will be reported annually and the quantity of wetland compensatory mitigation required is linked to actual quantity.

AR1028, pp. 5-6.[266] For example, as to White Rock, the ROD estimates range from 729

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[265]The Court's prior Order noted that there had been an increase of 40% in the number of acres to be mined between the last public notice published prior to the ROD and the permit subsequently issued to Rinker. Sierra Club, 423 F. Supp. 2d at 1366 fn257.

[266]The ROD provides further explanation for the differences in estimates:

> The EIS figures are based on the estimated mining plan but those plans have not been refined to incorporate actual setback distances from such things as existing canals so the tabulation includes acres of canals.... The BRA and FLS acres have slight differences arising from several causes, including: the BRA analysis included adjusting the map to georeferenced photos; the FLS analysis incorporated information from the applicants on the extent mining [sic] that has taken place since the photos; and, there are inevitable slight differences resulting from having two different persons drawing and measuring maps at two different sdcales (digitizing difference). Both sets of figures are used to provide an estimate of the acres that will occur within the mapped boundaries.... The Corps has used the BRA figures since they are broken down by vegetation type

(FLS and DEP) to 941.7 (BRA) acres of impact.[267]

An additional complication in tracking the environmental impacts of these mining activities is that some of the permits have been changed to allow mining in different areas than previously disclosed to the public.[268] Conditions imposed on the permits also have been modified, e.g., archaeological sites were destroyed inadvertently by mining at the beginning of the permit period and now the permittees are subject to additional conditions.[269]

> so that an ecological assessment can be performed. The FLS numbers were used by the FDEP in their permits. The Corps is using the same maps as the FDEP.

AR1028.

[267]The estimated impact from mining by Tarmac was estimated in the ROD to be as much as 1030.65 acres (FLS) or as little as 912.25 acres (DEP). The Corps, relying on the BRA estimate of 989.4 acres, noted an apparent "digitizing difference" between the BRA and FLS numbers, while the DEP inadvertently used just the "deep cut" acres, not the haul roads. AR1028, p. 6.

[268]It appears that the Corps may modify these permits and even the imposed conditions again at any given time in the future – presumably without providing notice to the public or an opportunity for public participation, as they have not yet done so with regard to a number of modifications to the permits which have occurred since they were issued.

[269]When Florida Rock inadvertently used a 15-acre area outside its permit's footprint for muck storage, the Corps issued a Notice of Noncompliance on Feb. 25, 2003, and then made changes to the timeframes of the mining footprint, SAR1289 July 2003. "They want to modify the permit to address the unpermitted clearing," SAR 1257; in the end, the noncompliance was "remedied" by an amendment to the permit after the fact. See modification of Florida Rock impact footprint: "original permit plan was based on April 2000 information, so since it took until April 2002 to get the permits generated, the phase timing is off and minor changes to the footprint are needed." SAR 1289. Most of the permit modifications by the Corps have been for the purpose of calculating new areas for mining, i.e., the "shifted mining footprint" described in the BO, p.12. Defendants claim that these changes resulted in no net change in the acres to be

The Court has little option but to attempt to clarify the acres of impact.[270] The following table summarizes the record regarding the anticipated number of acres of impacts and projected years for all permittees combined.[271]

Source of estimate	Acres of wetlands to be filled/impacted	Years to do so
ROD, AR1028, p. 5	5,409	10
ROD, AR1028, p. 67	5,400	14[272]

mined. A Corps staff member announced shortly after the permits were issued in April 2002 that previously permitted areas – i.e., areas subject to other pre-existing permits of these mining companies – not within the 10-year mining footprint could be mined by a permit modification, provided that the total amount of mined area is not greater than what was permitted and what has been mitigated for. SAR1212 (November 21, 2002). This casual approach to modification without public notice is improper. Moreover, it is beyond doubt that the total number of acres to be mined has changed since issuance of these permits, despite Defendants' claims to the contrary: the ROD declared that the mining would result in impacts to 5,400 acres, but the BO, p. 2, reports that 5,712.2 acres will be mined – of which only 4565.7 acres are wetlands.

[270]The Court is extremely reluctant to analyze these permits individually but must do so at least as to the number of acres of impacts in order to evaluate whether the Corps' overall permitting decision was rational, as it appears that it was not. The Intervenors' also have suggested that the Court evaluate each mining location separately in the event that the Court planned to limit any mining.

[271]"In April 2001, after the permit period was reduced and the total acreage was reduced to 5,400, a senior Corps staff member explained to a senior member of ... FWS that some of the mining companies still had permits that were being extended but were not going to be mined in the next ten years, e.g., Rinker's permit is 20 year permit." AR816 (Corps telling FWS not to worry about the question raised by FWS regarding the fact that "public notice drawings are not representative of whats [sic] going on on the ground.")

[272]As noted by this Court previously, "[t]he ROD explains that the mining in this '10 year' footprint 'will not be mined out for 14 years,' AR1028, p. 67, to allow for certain companies that may need the additional acreage to continue mining, in the event that

ROD, AR1028, p. 116	3,315 (i.e., 331.5 acres/year times 10 years)	10
Corps staff, Feb. 2002	5,400	16[273]
BO, p. 2	4565.7 (plus 1146.5 of non-wetlands, for a total of 5712.2 acres)	10

The question of prior impacts from mining activities of these companies is similarly unanswered by this record. According to the ROD, slightly less than 5,000 acres of quarry pits existed at the time the ROD was issued in 2002, i.e., approximately 10% of the Lake Belt area already was a quarry pit. AR1028, p. 58. The Corps failed to establish a clear baseline before issuing these permits[274] – and instead relied on

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they mine more rapidly than the industry standard rate." Sierra Club, 423 F. Supp. 2d at 1279 n.5.

[273]"In February 2002, Corps staff observed that the '10 year' footprint would 'actually ... take 16 yrs to mine.' AR978." Sierra Club, 423 F. Supp. 2d at 1279 n.5.

[274]According to the ROD:

> The FLS drawing has larger lakes then [sic] the BLS drawing because FLS had information from this applicant on the lake excavation that took place since the date of the aerial photograph used by BRA. Since the current size of lake information is not available for all the miners, the Corps will use the BRA number for its estimate of impacts to maintain consistency in the numbers, even thought [sic] that results in an overestimate. The annual reports are the method of providing the actual impacts by which the Corps will judge the progress of the mitigation plan.

AR1028, pp. 6-7. The permittees' first annual report to the Corps did not include a statement of acres impacted. Noting that the County had not yet released the March 2003 aerial photos, which the permittees intended to use to calculate the mining and wetland impact acreage changes that occurred during the reporting period, the report stated:

estimates of impacts provided by the permittees (apparently based on aerial photos).[275]

The following table summarizes the most current information, from multiple sources, regarding the number of acres to be mined or impacted by each permittee.

> [T]his 'Interim' report does not include these aerial photos and the calculated acreages and ecological balance for the permits. A 'Final' report will be submitted to the agencies within 60 days of release of the aerial photos by the County.... A biologist visited all of the mining operations in 2002 to assess the types of wetlands that were projected to be impacted. The wetlands that were impacted in 2002 were predominantly dense melaleuca.

SAR1321, pp. 4-5 (Interim Lake Belt 2003 Annual Report, Executive Summary, March 11, 2004). The permits do not require that the photos be the method for determining the impacts and simply state that the permittee "may" use these photographs in preparation of their annual reports. AR1055, p.6.

> The reporting period shall be the period between the dates of each year's aerial photograph of the project area. In lieu of using the County's aerial photographs, the Permittee may use ground surveys, aerial photographs from other sources, or other methods acceptable to this office. If the County aerial photographs are not used, the reporting period shall be a 12-month period.

AR1055, p.6.

[275]The Court notes that an extensive amount of time was spent during the hearing on the question of whether Intervenors possessed current aerial photos of their mining operations; arguments about work product, etc., were raised. Tr. 3897-98, 3908. Upon further reflection, the Court is surprised that the disclosure of the photos required such debate; clearly the permittees disclose their mining impacts, using aerial photos, in each year's Lake Belt Annual Report (the most recent one reviewed by the Court was very well designed). Plaintiffs' Exh. 16 (Lake Belt 2005 Annual Report, published January 2006, regarding impacts through February 2005).

	A 2002 Mined Baseline per LB02*	B 2002 Mined Baseline per LB03*	G 8/2006 BO Current MINED (wetlands impacted)	H 8/2006 BO Current already CLEARED	I 8/2006 BO Current TO BE cleared	J 8/2006 BO Current Totals (Col. G + Col. H + Col. I)	K BO* Total impacts	L April 2002 ROD*
White Rock	*675.9*	*1038*	195(65)	546	302	1043	*1049*	*941.7*
Sunshine	103.8	103.8	9(1)	42	0	51	45	68.7
Sawgrass	52.5	52.5	12(2)	53	0	65	164.2	137.02
Tarmac	*337.3*	*722.5*	176(133)	315	653	1144	*1162.3*	*989.4*
Continental	276.1	276.1	17(0)	73	0	90	*82.7*	*146.9*
APAC	*144.8*	*261.3*	36(53)	152	277	465	466.6	410.6
Florida Rock	*498.7*	*554*	83(138)	293	432	808	*809.3*	*725.8*
Kendall	288.5	288.5	169(245)	264	81	514	514.4	536.7
Rinker FEC	613.5	613.5	248(293)	235	576	1059	*1045.1*	*1101.2*
Rinker SCL	81.6	81.6	44(40)	111	187	342	345.5	325.5

* Lake Belt 2002 Annual Report, SAR1231; Interim Lake Belt 2003 Annual Report, SAR1321; BO, Docket No. 241; ROD, AR 1028

As is evident from the table above, the estimated total impacts are generally much larger in the BO than in the ROD, particularly for two of the three permittees with the largest number of acres in their individual permit: White Rock (the BO indicates more than 100 additional acres of impact), and Tarmac (the BO indicates more than 170 additional acres). Further, the baseline[276] figures, i.e., the number of acres already

[276]The Interim Lake Belt 2003 Annual Report, SAR1321, notes that a February 5, 2002, satellite phot was used to document the 2002 baseline condition that existed

mined as of the issuance of these permits in early 2002 – which should be identical because they did not change, are substantially different for four of the permittees. The state of the record in this case reveals that the Corps clearly is not in command of the extent of the wetlands impacts from the mining authorized in these permits.

The Court has only briefly reviewed the specific locations of each of the mining operations specified in these permits,[277] with the assistance of Table 2 of the Lake Belt 2005 Annual Report (Plaintiffs' Exh. 16), the most comprehensive and current source of information available in this record as to the mining activities.[278] A senior staff member at the Corps noted that "[f]or a variety of reasons, we never asked for the individual company's estimates but instead used a consolidated estimate of mining per year. ... the

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prior to the issuance of the permits in April 2002.

[277]Defendants have complained about the time that would be required to "undertake separate analysis ... for short-term mining operations at the nine separate sites with ongoing mining operations subject to the existing permits," Docket. No 350, p. 9, if this Court vacates these permits and the mining companies must apply individually for permits to recommence mining until issuance of the SEIS. This complaint is meritless, as it is the Corps' duty to evaluate individual permit applications. In fact, it appears to the Court that there are far more than "nine separate sites with ongoing mining operations" which is emblematic of the problems inherent in these permits and the Corps' approach thereto. Although the challenged permits were issued to nine companies, there are mining operations in thirty different one-square mile sections of this area (and only six companies actually are mining: Tarmac, Rinker, Florida Rock, White Rock, Sunshine, Sawgrass – White Rock mines Continental and APAC's permitted area and Rinker mines Kendall Properties' area). Plaintiffs' Exhibit 16, Table 2. In any event, examining each permitted location for its continuing vitality, as urged by the Intervenors, Docket No. 352, p. 131 ("vacatur on a permit-by-permit basis"), would require this Court to travel too far into the agency's area of alleged expertise – a decision that will remain for another day.

[278]The BO issued by FWS provides additional information regarding impacts which, oddly, appears to be inconsistent with the information provided by the permittees in their Annual Report (see discussion above).

Permit is 330 acres per year." SAR1283. At the hearing, the Corps' witness admitted that there is no limit on the amount of mining or clearing that may be done at any time by the permittees, as long as they stay within the total number.

Several of the permittees have relatively little acreage remaining to mine under these permits, and nothing remaining to be devegetated. Tarmac is "running up against the end of . . . [their] ten-year permitting," and has cleared "virtually everything" they have a permit to clear, other than the restricted area in Section 10, Tr. 5064 (Townsend), "[areas that remain to be mined under the ten-year permit] are either prepared to be mined or in dense Melaleuca." Tr. 4960 (Townsend). APAC has very little mineable property left that is not in the vicinity of the production wells and, therefore, already subject to the Corps' double cross-hatched restriction (special condition 7 in the permits). Florida Rock has 294 acres to mine, and another 432 acres remaining to be cleared of vegetation. As admitted by the Corps, there are no specific limits on the number of acres per year to be mined by any particular permittee, nor as a collective total. Trans 2621 (Studt).[279] In short, the Corps' errors include exercising little or no control over this mining.

Returning to the question of alternatives, the Court finds that the record evidence indicates that the Corps violated NEPA by failing to consider the "no action" alternative or other less damaging approaches to mining, particularly in light of continually mounting evidence regarding the potential contamination of the Wellfield. The Corps also improperly rejected the "curtail future mining" alternative, apparently because it was

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[279]Nevertheless, the Defendants relied on the estimated average annual impacts in urging this Court not to disturb mining while awaiting completion of the SEIS.

determined to approve the full planned fifty years of mining.[280] The Court already has addressed its conclusion that these permits were designed to "bridge" the period between when the Corps rushed to extend the mining companies' expiring previously issued permits, and the time when the Corps could find support for the proposed "50 year" plan of mining. Sierra Club, 423 F. Supp. 2d at 1335-36. In other words, it is evident that while these permits are labeled as "10 year" permits and limited to a specific number of acres (whatever that may be at any given time), they are intended as the foundation of a much more significant plan: to permit mining for at least another forty years (an overall mining period five times the amount of time addressed by the Corps in these permits).[281] The Corps failed to consider the benefits of denying future permits for mining in the area, and failed to consider the alternative of returning to the individual permitting approach previously used in this area. The Corps suggests that these permits are similar to other mining permits which have been issued and that the only difference with these permits is their larger "scope" in terms of years and acres, Docket No. 103; but it is that larger scope of permitted activity, even as to the ten years, that is the source of many of the fatal flaws of the Corps' permitting process.

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[280]"The industry recognizes that Corps permits have expiration dates, and, barring a change in the Clean Water Act, there is an expectation of continued permitting. This is not to say the permits cannot be allowed to expire or revoked, but that the basis for the permit termination should be based on new information on environmental or other impacts that indicate mining would be contrary to the public interest or be illegal under other laws." AR1028, 36 (emphasis added).

[281]It is difficult to predict accurately what will be the effect of any specific restrictions on mining in this area. Dr. David's opinions "start from the assumption of a hundred percent shutdown of Lake Belt mining," Tr. 6072 (Dr. David), which it appears may have included the entire amount of mining in the fifty year plan.

Failure to clearly demonstrate the absence of environmentally preferable alternatives

The Corps' collective approach to these permits apparently influenced its decision that there wasn't "sufficient" limestone available elsewhere – i.e., that there were no practicable alternatives.[282] From their initiation, these permits were designed to fail the test of practicable alternatives, 40 C.F.R. § 230.10(a) (which the Corps first claimed didn't apply), by including such a significant amount of mining that it would be impossible to find a substitute elsewhere.[283] For example, if a single company had sought a permit to mine only its own portion of this area, and for only a few years, it may not have been able to rebut the presumption that practicable alternatives exist,[284] but a group of companies joining together and claiming that there wasn't an alternative source with sufficient supply to replace a decade's (or five decades') worth of mining in this area presented a much more compelling need for the permits.

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[282]A practicable alternative is one that is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. 230.10(a)(2).

[283]Although the Corps must consider cumulative effects of permitted actions, 40 C.F.R. § 230.11(g), that directive does not require the Corps to group multiple permits together – particularly when they appear to have such very different issues regarding location and size of mining operation, and when their collective impact involves such extensive risks to the environment. DEP's amicus curiae brief, filed April 24, 2006, asserts that the review of individual permit applications gives a "myopic assessment of wetlands quality and mitigation, which if determined on a permit by permit basis over the next ten years would result in less wetland preservation." Docket No. 88, filed April 24, 2006, p. 8 (Amicus Curiae Brief filed by the State of Florida). The Court disagrees. The evidence before the Court, including the entire administrative record in this proceeding, suggests that the collective approach to these mining permits created an irrepressible momentum to approve further mining regardless of the adverse environmental effects.

[284]It is undisputed that there are other sources of limestone – the dispute is only as to how much limestone is available elsewhere, and at what cost to the producer.

Intervenors admit that 13 million tons could be found over the remand period, Docket No. 352, p. 71 (citing Tr. 5957-58). It also appears that other sources of limestone may be able to be developed in the future; however, it has been suggested that developers of other mining locations may be hesitant to proceed. Dr. Jesse David, an economist who testified on behalf of Intervenors,[285] noted that "investors ... are going to have to consider the fact that at some point in the future the Lake Belt mines may be brought back onstream, either partially or fully. And if they're attempting to serve those same markets from a more distant location, they're going to be immediately out-competed when the Lake Belt mines come back. So there's a huge risk for somebody to build a new mine for the purpose of serving the customers that are now served by the Lake Belt." Tr. 5956. [286] The Court found Dr. David's expertise in the area of environmental economics to be impressive. His Ph.D. from Stanford University, and his fifteen years of professional experience, rendered him competent to testify as to the impacts on the mining industry from any limits on future mining. However, the Court found Dr. Weiskoff's expertise as an economist to be more pertinent, particularly in light of his substantial experience investigating the impacts of Everglades restoration projects on the local and regional economy; Dr. Weisskoff has published a book, titled The Economics of Everglades Restoration, Tr. 1605 (Dr. Weisskoff). Dr. Weisskoff has almost four decades of experience, has a Ph.D. from Harvard, has taught at Yale and is

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[285]Dr. David, testified that Intervenors paid his firm $100,000 in connection with his testimony in this case. Tr. 6012.

[286]Clearly, this Court's prior Order was not interpreted by the permittees, or the Corps, as indication that mining in the Lake Belt may be nearing the end of its days.

a tenured professor at the University of Miami. Tr. 1592-99 (Dr. Weisskoff).[287]

Notably, one of the permittees, White Rock, expressed concern about the "loss of customers" which implies that there are alternative sources of limestone available. "If we tell them we can't do it, then they look somewhere else for another supplier." Trans. 5792 (William Glusac). The fact that customers will go elsewhere for "another supplier" suggests that alternative sources for this rock exist. The Rinker FEC quarry was the largest producer of crushed stone in the United States in 2004 (Aggregates Study, Part II, p. 6), and the company recently was purchased by a Mexican-based company, CEMEX – suggesting that the corporation may have resources with which to balance the effect of the Court's ruling. Even prior to the purchase, Rinker's limestone reserves in Lee County in the southwestern part of Florida, were considered to be "a replacement for Lake Belt [limestone] in the short term," Aggregates Study, Part II, p. 21.[288]

Despite the extensive amount of information submitted by the Intervenors regarding the predicted disruptive effects which may result from any prohibition on their

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[287]In the late 1990s Dr. Weisskoff was appointed to the Full Cost Accounting Subcommittee of the Governors' Commission for a Sustainable South Florida by its Director, Richard Pettigrew. Tr. 1597-99 (Weisskoff). Mr. Pettigrew testified before the Court on behalf of Intervenors. The Court notes that there are several interesting connections among witnesses who testified in the same area of expertise but for opposing parties at the hearing: Intervenors' witness Dr. Feenstra is a friend of Plaintiffs' witness Dr. Hennet, Tr. 6538 (Dr. Hennet); Intervenors' witness Dr. Cotruvo is a personal friend of Plaintiffs' witness Dr. Huffman, Tr. 294 (Dr. Huffman); and Intervenors' witness Mr. Ogden's research program has funded the work of Plaintiffs' witness Dr. Dale Gawlik, Tr. 3598 (Ogden).

[288]White Rock was the second largest producer of crushed stone in the United States, and Titan was the fourth largest. Aggregates Study, Part II, p.6. The size and past profitability of these corporations suggests sufficiently strong management such that adjustments will be made to any decrease in mining.

mining activities, the Court finds that the Corps did not properly apply the rebuttable presumption that practicable alternatives exist, and because the Corps agreed to consider these multiple mining operations in a single permit, despite their diverse characteristics as to size, operations, location (some are mining in areas which have fee wetlands), products produced, market, etc. This combination of multiple corporations' mining activities resulted in a larger "purpose" for the project and a significantly harder task of finding practicable alternatives. The Corps' misinterpretation of the water dependency test[289] in issuing these permits for limestone mining may have been the single most damaging of the agency's errors, for it appears to have propelled the Corps toward approval of these permits without sufficient analysis of the adverse environmental effects.[290] Even if the Corps had applied the presumption, it is not clear

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[289]The Court previously addressed this issue in some detail and repeats it here for emphasis. "[A]n applicant's project purpose cannot be tailored so as to render the alternatives analysis circular, i.e., using a premise (limestone mining must take place on the miners' lands which happen to be wetlands) to prove a conclusion (the project requires siting within the wetlands) that is in turn used to prove the premise." Sierra Club, at 1356 n240.

[290]The Court notes that the Defendants have yet to demonstrate what "high quality and regionally important habitat" superior to the Lake Belt wetlands would have been damaged, as claimed in ROD, AR1028, p. 38, if alternative locations were selected for the mining under these permits. Sierra Club, 423 F. Supp. 2d at 1357. It may be that the Corps would be unable to find sufficient limestone, i.e., a practicable alternative, if the Corps were weighing the entire fifty years of mining originally envisioned – but . The Court is not commenting on the "50 year" mining plan, as the Defendants have assured this Court that such an ambitious plan is not before the Court at this time – despite several indications in the record to the contrary. Richard Pettigrew, who speaks with an impressive breadth of experience in public policy, notes that the "50 year" plan "is entirely different in context" as to impacts on seepage and other areas of concern. Tr. 3455 (Pettigrew). The Court leaves for another day the question of whether those proposed extensive permits were ever or could ever be appropriate, but cannot resist observing that it is impossible to imagine that such action

that the Corps would have had clear evidence to overcome it. The Court does not find record evidence to overcome the presumption that should have been applied by the Corps. The Corps made the mistake of assuming that this mining was "water-dependent" – an assumption which this Court dismissed as "circular" reasoning, Sierra Club, 423 F. Supp. 2d at 1356, n240 – and therefore failed to test carefully the permit applicants' claims that this Wellfield was the only location available for this limestone mining. It is clear that the mining permits before this Court were the result of a decision making process which was superficial, rushed,[291] and which failed to consider all of the environmentally adverse results, including contamination of a previously pristine Aquifer, thereby making a mockery of the "Clean Water" Act.

The Court observes that the pattern of the Corps' activity in issuing these permits in April 2002 has suspicious undertones of being an attempt to issue a general permit under the CWA (as originally requested by Intervenors and intended by the Corps[292]) –

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could be approved in this area, i.e., the Northwest Wellfield, where the mining leads to direct interaction with the Aquifer.

[291]One of the suspected explanations for the Corps' urgency was the agency's attempt to preserve the $.05 per ton (of mined rock) mitigation fee in face of the permit applicants' steady refusal to pay any higher fee. Ironically, those concerns have been eclipsed, suddenly and totally, by the proposal from the permittees to increase the fee substantially, effective January 1, 2007 – a proposal which the Florida Legislature adopted. The new fees increased to $.12 per ton in January 2007, and will become $.18 and $.24 per ton as of January 2008 and 2009, respectively.

[292]As stated in this Court's March 2006 Order, the Corps "originally intended to issue a General Permit, delegating its authority to DERM. AR468." Sierra Club, at 1351.

discussed in this Court's March 2006 Order – despite the fact that a general permit clearly could not have been approved in these circumstances. The CWA provides that the Secretary of the Army (through the Corps):

> may, after notice and opportunity for public hearing, issue general permits on a State, regional, or nationwide basis for any category of activities involving discharges of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment.

33 U.S.C. §1344(e)(1). Further,

> No general permit issued shall be for a period of more than five years after the date of its issuance and such general permit may be revoked or modified ... if ... the Secretary determines that the activities authorized by such general permit have an adverse impact on the environment or such activities are more appropriately authorized by individual permits.

33 U.S.C. §1344(e)(2).[293] In addition, the Corps' own regulations provide that a general permit is appropriate for those activities which are both "substantially similar in nature" and "cause only minimal individual and cumulative environmental impacts" or, in the alternative, when "[t]he general permit would result in avoiding unnecessary duplication of the regulatory control exercised by another Federal, state, or local agency provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal." 33 C.F.R. 322.2(f)(1) and (2).[294]

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[293]See also 33 C.F.R. § 325.2(e) and 33 C.F.R. § 330.1.

[294]In Sierra Club v. U.S. Army Corps of Eng'rs, 2006 U.S. Dist. LEXIS 85132 (M.D. Fl. 2006), the Corps' decision to issue a regional general permit, RGP SAJ-86, for a housing developer's proposed project was approved under the CWA and NEPA by the "slimmest of margins." The Corps made a finding that the housing developments satisfied the "minimal impact" requirement in part because of the extensive mitigation planned and the numerous conditions placed on the developments regarding other

It is easy to discern Congress' intent in this language – general permits should only be issued as to those activities which are found to be only minimally adverse to the environment and, even then, should be issued only for a short duration during which the activities and permits are monitored carefully and re-evaluated frequently. According to the senior Corps staff member, Bob Barron with the "corporate knowledge of the permit," SAR1230, and the "corporate memory," SAR1233:

> This is an unusual permit ... here we have 10 companies that compete against each other working together to have the same permit conditions .... and the conditions are the same in the Corps and State permits .... sorta what I would dream about for say all homebuilders in Monroe County, etc.... which hopefully will save us immense amounts of manhours in the future renewals compared to the normal every-permit–is-unique mode .... is what GP/NWs [General Permits/Nationwide] were intended to do but they have become targets!

(SAR1230, message sent from Bob Barron to John Studt, January 9, 2003).[295] The Court understands this statement to infer that general permits are targets for either litigation or, at a minimum, enhanced scrutiny – and rightfully so as this would be consistent with the statutory and regulatory directives noted above. It would be improper for the Corps to attempt to clothe a General Permit in these Lake Belt permits'

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environmental issues. Noting the unusual nature of a finding of "minimal impact" based upon an act, i.e., mitigation, which had not yet occurred, the Court determined that the Corps' conduct was "at, but not beyond, the outer limits of [the agency's] authority" and vacated the preliminary injunction which had been entered.

[295]As previously noted by the Court, the Corps' concern about workload also was mentioned prior to issuance of these permits. In noting that the mining industry's attempt to seek a collective permit might "collapse," a Corps staff member stated, in July 2001, that "our workload will surely increase." Sierra Club at 1288 n24.

clothing. The surreptitious nature of these permits[296] and the Corps' flawed analysis of alternatives, along with other issues, render these permits fatally flawed and require that they be set aside.

Flawed public interest review

The Corps' governing regulations specify that the "unnecessary alteration or destruction of [wetlands] should be discouraged as contrary to the public interest." 33 C.F.R. § 320.4(b) (1). Each decision by the Corps to issue a 404(b) permit must be based on an evaluation of the "probable impacts, including cumulative impact, of the proposed activity and its intended use on the public interest." 33 C.F.R. § 320..4(a)(1).[297] "The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments." Id. The evaluation of impacts "requires a careful weighing of all those factors which become relevant in each particular case" and the decision to issue a permit is "determined by the

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[296]The Corps' public documents, e.g., EIS, ROD, Public Notices, "Three Year" review report, etc., regarding these permits are notably inconsistent as to precisely how many acres of wetlands will be impacted, their location, and the timing of the impacts. See discussion, *infra*, regarding the confusion surrounding the specific impacts of these permits. The Court already has commented on the Corps' attempt to make more extensive permits, e.g., for fifty years of mining, have the appearance of more closely controlled and limited permits. Finding that the challenged permits were designed to lead to full mining of the Lake Belt area, despite the fact that they were presented to the public as "10 year" permits, this Court declared that such a "surreptitious approach to permitting does harm to the principles of NEPA, and the APA, as well." Sierra Club, 423 F. Supp. 2d at 1335.

[297]"[A] permit will be granted unless . . . it would be contrary to the public interest." 33 C.F.R. 320.4(a)(1).

outcome of this general balancing process." Id.

As detailed above, and in the Court's prior Order, the Corps failed to give sufficient weight to a number of probable impacts on the environment, and appears to have given an unjustifiably greater weight to the "benefits which reasonably may be expected to accrue" from the mining. Indeed, the Court has determined that the adverse environmental effects of this mining, particularly the risk of contamination of the Wellfield and Aquifer, are sufficiently harmful such that almost any "public and private need" for the mining would be outweighed. At a minimum, the "benefits" alleged and demonstrated to date, including the production of limestone for sale, clearly are insufficient to outweigh the "reasonably foreseeable detriments."

The Corps' governing regulations specify several criteria which must be considered when evaluating the "public interest" of the proposed activity.

> The following general criteria will be considered in the evaluation of every application [for a permit]: (i) The relative extent of the public and private need for the proposed structure or work; (ii) ... the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

33 C.F.R. § 320.4(a)(2). Determining the relative extent of the public and private need for this mining is somewhat difficult.

The public's need for limestone, generally, is abundantly clear from the record. Limestone products are primary construction products for roads (which use aggregates

from limestone), buildings[298] (which use cement or concrete), etc. Questions have been raised, however, and remain unanswered, as to the extent of the public need for the specific limestone from the Lake Belt – including the limestone located in the Aquifer near the Wellfield's production wells, as compared to limestone from other areas. The record evidence is not convincing as to the public's alleged need for all of the limestone planned to be mined under these permits. Intervenors have argued that there is a special and extensive need for this particular limestone because it is of a certain quality which performs well when used in highway construction and and other projects. In support of their arguments, Intervenors submitted testimony by a representative of the Florida Department of Transportation ("FDOT"); the agency also filed an amicus curiae brief. Docket No. 80, filed April 17, 2006.[299] "The loss of Lake Belt aggregates will

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[298]This extent of the need for limestone products for new construction of homes may be declining in the next several years. According to the FDOT's Aggregates Study, "the volume of building construction, measured by area, will be less in 2009 than it was in 2004 across Florida. However, 2004 was an unusually strong year – driven by the combination of strong population growth and very attractive interest rates. Levels forecast for 2009 would be back to the more sustainable, long-term trends." Aggregates Study, Part II, p. 12. "After a five-year period of rapid gains in residential construction, the growth of primary crushed stone demand in Florida is forecast to slow.... Florida is coming off of a cyclical peak in construction activity." Aggregates Study, Part II, p. 16.

[299]The Court notes that FDOT appears to have recently taken a very active role in framing the discussion of alternatives for the Corps and the Court. Docket No. 373-2, submitted by Plaintiffs, includes FDOT records which reveal that FDOT hired a consultant to conduct an "aggregate resources study." FDOT conducted meetings with representatives of the rock mining industry, including Intervenors Florida Rock and Rinker, regarding this study, and Plaintiffs have provided the minutes of those meetings. At the first meeting, conducted on June 5, 2006 (just one week before this Court commenced the evidentiary hearing), FDOT's Ananth Prasad (who also offered testimony before this Court) commenced the meeting with: "We will rely on our consultant's report to support an Act. We are neutral until the Governor decides. Must

impact the majority of [the State's transportation department] construction projects] because the projects depend on those aggregates." Docket No. 80, p. 4. "Lake Belt mines are the primary sources of aggregates developed and used by the Department for resurfacing projects since 1994 as a durable and skid-resistant pavement surface, i.e., 'Superpave,' that reduces and prevents hyrdroplaning conditions, especially on high volume and high speed roads." Id., p. 5. "The Department's best estimates indicate that the mining industry will not be able to replace aggregates from the Lake Belt mines *from any other source in Florida* in a time period of less than five (5) years." Id., p. 7 (emphasis added). Five of Florida's six largest limestone mines, which also are ranked in the top twenty in the country for crushed stone materials, are located in the Lake Belt area: Rinker (FEC Quarry), White Rock, Tarmac, Rinker (Krome Quarry/Kendall Properties site), and Florida Rock. Docket No. 367, Part I, p. 15, Strategic Aggregates Study: Sources, Constraints, and Economic Value of Limestone and Sand in Florida",

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consider new Legislation. We need to sell plan more globally, including home building, etc., not just a transportation flavor." Another FDOT staff member noted a need for a "sense of urgency as other markets (Alabama, New Orleans) compete with Florida." (This statement suggests that other sources may be available as alternatives.) A person identified on the attendee list as an "industry representative" stated: "Sensitivity is huge. Local pressure is huge. Economics is huge. How we package, market is vital. Lot of potential if we stress affordable housing, schools & education, growth management." Finally, the consultant hired to prepare the report, Tom Herbert, says "we will be developing the research to support the possible legislative change but the information should be tailored to fit the needs of the industry group who will initiate legislative efforts." At a second meeting on August 15, 2006, a "consultant" reported that he had developed a computer program which will measure aggregate consumption by regional area, and will consider impacts, including "unintended consequences" identified as "affordable housing, hurricane building code changes with always the greatest impact on poorest people, e.g., on Wal-Mart's lowest 20% of population." Another attendee stated that aggregates "are a societal need, like water or clean air and should be presented as such."

Final Report dated March 12, 2007 ("Aggregates Study").[300]

There is no question that at least some quantity of this limestone, which is sold for profit by the permittees, serves a purpose for the public by being available for public construction projects such as highways, bridges, schools, and hospitals; however, the evidence has not demonstrated a lack of alternative sources for the amounts of limestone to be produced from the remaining acres available to be mined under these permits in the short term remaining. There are other sources of limestone, e.g., Georgia, Alabama, Mexico, Canada – and while they may be more costly for Florida consumers to access than locally produced Lake Belt limestone, the environmental laws are clear that even a more costly alternative may be "practicable"[301] when compared to a project that requires destruction of wetlands. Mr. Prasad states that:

> There is a significant supply of limestone available from Mexico, but it does not meet skid resistant standards and cannot replace Lake Belt aggregate.

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[300]The Court is mindful of the arguments raised by the parties regarding the admissibility of items submitted after the hearing. As noted earlier, the Court has expressed a desire to have as much information as possible and has taken a broad approach to the admissibility of items; nevertheless, the Court has carefully evaluated the particular weight to ascribe to each given submission. For example, the "Strategic Aggregates Study: Sources, Constraints, and Economic Value of Limestone and Sand in Florida", Final Report dated March 12, 2007, clearly reflects the interests of the limestone mining industry, and the fact that it was "prepared for" the FDOT does not render it a neutral document. The Court notes that the study apparently was published for the purposes of this Court's review, as Part II is titled "Potential Impacts to the Economy of Florida from the Curtailment of Crushed Stone Production"– the Court is not aware of any other agency or person currently considering "curtailing crushed stone production."

[301]Ananth Prasad, Chief Engineer of the Florida Department of Transportation, submitted an Affidavit (accompanying the Department's amicus brief) and testified at a deposition in this case (the transcript and videotape of which was submitted at the evidentiary hearing).

> [A]ggregates are available] from Canada [which] meet the skid requirements and can be brought in by vessel . . . . at a premium price . . . and it is extremely unlikely that supplies from these sources can be increased in the near term due to logistical constraints." Affidavit, ¶13.

The Court notes, however, that there may be flaws in applying a presumption that all demands for development should be met. Intervenors' economist testified that he

> hadn't been in Miami for about ten years.... [W]hen I got here ... my first thought was that Miami looks like ***Shanghai***. I've never see [sic] anything like it in the U.S., with all the construction cranes. That is certainly not typical. Construction growth in Florida I believe is something like 16 percent annually. That is multiple times the growth in the rest of the U.S.

Tr. 5937 (Dr. David). "Demand for all types of construction materials has been growing rapidly, and prices have been rising as a result. In particular, cement and crushed stone are two of those products." Tr. 5938.[302]

As discussed above, the Corps failed to adequately study the existence of reasonable alternative locations to accomplish the objective of the proposed mining – in part because the Corps failed to define the project's purpose and objectives with specificity. The detrimental effects which the mining is likely to have, and which already has had, on the Lake Belt area have been discussed above. These detrimental effects, particularly the exposure of the Aquifer to increased risk of contamination, are both extensive and permanent.

Several additional factors for consideration are suggested in the regulations. 33 C.F.R. § 320.4(a)(1). The ROD only briefly analyzed any of these factors, AR1028, p.

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[302]The job growth rate in Florida, approximately 2% annually, is four or five times faster than the U.S. as a whole, Transcript 5936 (Dr. David). This may hold some promise for those mining employees who may lose their jobs with the permittees as a result of this Court's ruling.

76-83, and the parties only addressed those factors which are most relevant to these mining permits. The Court will not address each factor, nor repeat its prior analysis of issues relating to the following factors – all of which weigh against the granting of these permits: general environmental concerns,[303] wetlands,[304] wildlife values, water supply

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[303]Consistent with the requirement that "general environmental concerns" and "water quality" be considered as factors in the Corps' public interest review, a number of risks from the permitted mining have been identified by the parties and examined during the evidentiary hearing. In addition to those discussed by the parties throughout this process, the Court's study of this matter revealed a risk which would otherwise have appeared to be too improbable to consider. The Court discovered that a tragedy had occurred on April 26, 1997, involving the collapse of a dragline and the death of two men at one of the mining sites in the Lake Belt. The men's bodies were found in Sunshine Rock's mining lake where the men had been operating the dragline for mining. "[Two men] drowned at approximately 4:30 a.m. on April 26, 1997, when the dragline they were operating fell into 71 feet of water, carrying the victims with it." One of the bodies was not recovered by divers until 1:30 p.m. (9 hours later), and the other was discovered the following morning at 6:50 a.m. (more than 26 hours after the accident). United States Department of Labor, Mine Safety and Health Administration, Accident Investigation Report, Fatal Machinery Accident, FTL97M27 (April 26, 1997). Available at www.msha.gov/FATALS/1997/FTL97M27.HTM (last visited June 19, 2007). This type of evidence meets the standard for judicial notice as it is "capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." Shahar v. Bowers, 120 F.3d 211, 214 (11th Cir. 1997) (en banc)(quoting Fed. R. Evid. 201(b)); Lundquist v. Continental Casualty Co., 394 F. Supp. 2d 1230 (C.D. Cal. 2005) (opinions of administrative agencies). The occurrence of this tragedy in 1997 (while the Corps was actively preparing its draft EIS) should have alerted the Corps to address this type of industrial accident as one of the potential risks of this activity.

[304]The regulations direct that impacts to wetlands which perform functions "important to the public interest" should be avoided. These special wetlands include:

> (i) Wetlands which serve significant natural biological functions, including food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic or land species ... (iii) Wetlands the destruction or alteration of which would affect detrimentally natural drainage characteristics ... (vii) Wetlands which serve significant water purification functions. (viii) Wetlands which are unique in nature or scarce in quantity to the region or local area.

33 C.F.R. § 320.4(b)(2). The Court finds few functions as important to the public interest as the Aquifer-protecting functions performed by the wetlands at issue herein.

and conservation, water quality, and the needs and welfare of the people; however, a brief discussion of four factors identified in the regulations is in order: "economics," historic properties, mineral needs, property ownership,

The "economics" factor is not defined by the Corps, but it is doubtful that the "public interest" review was intended to include consideration of private profit. In Buttrey v. United States, 690 F.2d 1170 (5th Cir. 1982), a panel of the Fifth Circuit found that "$3 million or so in public jobs that the construction of [the applicant's proposed 40-acre residential development would create] is not the kind of 'economic' benefit the Corps' public interest review is supposed to consider." Id. at 1180 (citing 42 Fed. Reg. 37,122 - 37,126 (1977)).[305] The private need of the corporations to earn profits on their investments is not included in the list of relevant factors to be considered, so this Court finds that the permittees' profits should be given little or no weight in this analysis;

According to the testimony of DERM's Director, "semiconfining lawyers between surface and the production depth for these wells, 40, 60 feet, retard downward movement of pollutants from the surface." Tr. 5176 (Espinosa), Plaintiffs' Exh. 4, p. 33. Instead of focusing on the importance of these wetlands to the health of the Aquifer, the Corps directed its efforts toward approving this mining.

[305]The total number of employees in Lake Belt mining jobs in 2006 was 929, according to the FDOT's Aggregate Study. Intervenors claim, however, that "[i]t is uncontroverted that a curtailment of mining during the remand period would eliminate thousands of mining jobs. Furthermore, as the effects of a shutdown of mining cascade through the economy, thousands of workers that either use the Lake Belt limestone, supply others who use such limestone, or supply the mining companies themselves, would also lose their jobs." Docket No. 352, p. 6. Again, these estimates do not distinguish between a limited prohibition on mining as compared to a permanent injunction. In light of the Court's ruling today, it appears that the Intervenors' arguments are at least mildly exaggerated and, in light of the Buttrey decision, employment or jobs data may be an improper factor to consider in a "public interest" review.

nevertheless, the Court has briefly addressed certain significant facts regarding the consideration of "economics" as defined by the Defendants and Intervenors for the purpose of highlighting the improper nature of weighing a private corporation's profit against significant adverse environmental effects.

Dr. Weisskoff testified that the profits of the permittees' corporations have been rising – prices are rising more than costs are rising, so profits are rising, Tr. 1846, and they will be able to use this increased margin of profits to respond to the potentially higher costs of accessing limestone from alternative sources, e.g., higher transportation costs, etc. Indeed, as noted above, two of the corporations, Florida Rock and Rinker, were bought recently – suggesting that they were an attractive investment for their respective purchasers, Vulcan and CEMEX. For example, Rinker, which has operations in Australia, China and the US, Tr. 5802, 5814 (Glusac), was recently acquired by CEMEX; it appears that this transaction has been developing since at least November 2006, i.e., before closing arguments in the evidentiary hearing, and before Intervenors' brief was filed on January 22, 2007 (Docket No. 352).[306]

The regulations note that "historic properties" may be a relevant factor. The

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[306] It appears that the acquisition of Rinker by CEMEX has created problems of excess for the corporation. "Rinker Takeover Deal May Cost Jobs," Palm Beach Post, June 8, 2007:

> Selling off 39 plants in Florida and Arizona is part of the price Monterrey, Mexico-based CEMEX ... is paying to acquire Rinker ..., the Australian materials conglomerate .... CEMEX secured 50.34 percent of Rinker shares before noon Thursday, paving the way to complete its eight-month-long, $14 billion takeover of the Aussie firm. [Antitrust concerns have resulted in the closing of twenty cement plants and six concrete block plants throughout the state.]

presence of archeological sites in the Lake Belt area was known prior to issuance of the permits. The Corps included a special condition that the "[p]ermittee shall avoid disturbance of archeological sites." Special Condition 6, AR1055, p. 18. Despite the Corps' attempt to protect these special sites, two sites already have been destroyed by the permittees, with no significant consequences.[307]

MINERAL needs

Considerations of property ownership should include a balancing of private property rights and responsibilities with other factors. In the case of these mining permits, the Corps clearly was concerned about the potential costs of not permitting mining, particularly as to the threats of inverse condemnation actions by the mining industry, as discussed in this Court's prior Order. Sierra Club, 423 F. Supp. 2d at 1299-1302. It bears mention, however, that the Corps' fear may be misplaced – at least as to certain of the properties at issue.

The evidence indicates that these specific permits were granted to corporations who, for the most part, began mining in the area only twenty years ago – after passage of the Clean Water Act and with full knowledge of federal law protecting wetlands.

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[307]"[T]wo recorded sites have been inadvertently destroyed [by the mining]." "'Three Year' review," p. 13. Although the permits already required provisions for mining to proceed only in those areas without archaeological significance, the mining had occurred without attention to these locations. It appears that the Corps pursued no enforcement action or made any other efforts to mitigate for the loss of these two sites. The Corps simply amplified an existing condition of the permits, Special Condition 6, and now requires that all future mining proceed only in areas which have been approved in advance by state authorities. As the permits provide no consequences for failure to comply with this condition, it is unclear how this provision could be enforced. This violates the requirement in 33 CFR 325.4(a) that permit conditions must be reasonably enforceable.

Tarmac's representative acknowledged that when it was acquired by Titan in 2000, Titan knew that it would need permits in order to mine in these wetlands. Tr. 4997-99 (Townsend). Tarmac first entered Florida and began mining in the Lake Belt when it purchased Lone Star Industries corporation in 1984. Tr. 4997 (Townsend). For clarity, the Court notes that Tarmac's representative testified that "[w]e started [mining in the Lake Belt] in the '60s," Tr. 4998, refers to his prior employment with Lone Star. Tr. 4955. The Corps' statement that "[m]ining in the Lake Belt area has been ongoing since the 1950s"[308] is an overgeneralization. Rinker is the only corporation/permittee who has such a history, and two of its quarries (FEC and SCL) did not start operations until the 1970s. Docket No. 97, p. 5. Sawgrass (mining since early 1980s, Deposition Transcript of Jose Fernandez), APAC ("mining in the Lake Belt since 1985," Docket No. 94, p. 13), White Rock (started operation in 1986, www.wrquarries.com), Continental (purchased by White Rock in Dec. 2004) (Intervenors' Exh. 132, Trans. 5563 (Hurley))

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[308]"Companies have acquired property and mined limerock from open-pit quarries in the area now known as the Lake Belt since the 1950s under Miami-Dade County zoning and wetland permitting regulations." AR1028, p. 35. "Rinker has purchased or leased thousands of acres of property in the Lake Belt area. Most of Rinker's property has been owned for many years.... Rinker's flagship operation is the FEC Quarry. This quarry has been in continuous operation since the early 1970s and is the largest aggregate quarry (by volume) in the United States – producing approximately 13 million tons of finished aggregate annually.... The FEC quarry also has a concrete pipe plant, a concrete redi-mix plant and a concrete block manufacturing plant.... The SCL quarry was opened in 1958 by LeHigh Cement and was purchased by Rinker in 1976. Since Rinker's purchase, SCL has been in continuous operation – the Miami Cement Mill operates 24 hours a day, seven days a week.... Rinker is also the operator of the Kendall Krome quarry. This quarry excavated limestone for the production of Portland cement from the 1950s until the late 1970s. While cement is no longer produced at Krome, the aggregate portion of the operation continues ...." See Affidavit of Rinker President, Exh. 1, Docket No. 34.

Defendants allege that the continuation of this mining provides several benefits, including the collection of mitigation fees[309] to facilitate restoration of wetlands in compensation for those destroyed by the mining, the provision of available limestone for Corps' construction projects related to Everglades restoration,[310] and the avoidance of costly expenses of acquiring these wetlands.[311] Intervenors' witness, Mr. Pettigrew, testified that CERP also includes the proposed use of some of the quarry pits in the north and central part of the Lake Belt as storage reservoirs, but that the first pilot

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[309]The Court notes that the mitigation fee of $.07 cents for each ton of limestone sold resulted in a payment of only approximately $10,150 per acre. The permittees' profits are estimated to be greater than $500,000 per acre. (

[310]The Tamiami Trail project, part of the Modified Water Deliveries project and a key feature of the Everglades restoration program, Tr. 4853-54 (Dr. Rice), consists of two bridge structures, one two miles long and the other one mile long. The bridges will be built from concrete, the foundations are concrete and the bridge deck is concrete – "all of the quotes that we have for concrete and for the lime rock base material are [based] on material coming from nearby quarries from the Lake Belt." Trans. 2945 (Scott Burch). The project also includes raising the remainder of the roadway anywhere from two to five feet in order to have more water flowing south. "Those base materials to raise the roadway are all going to be limestone aggregate, and all of those would come from the Lake Belt." Trans. 2946 (Scott Burch). In any event, despite Dr. Rice's predictions that Congress is "coming to the end of the rope" regarding any increases in funding, there is insufficient evidence in this record to find that the Corps will be unable to locate other resources for construction of any of its projects, or that the increased costs which are predicted from any limits this Court places on mining pursuant to these permits will not be able to be absorbed. Recall that the Corps' representative testified that the costs might rise by as much as 25%, despite his inability to produce studies or data to support that estimate. The Court's calculation reveals that a 25% increase for the materials, which are estimated to cost $55 million for the Tamiami Trail project, would be $13,750,000.

[311]It is peculiar, to say the least, that the Corps is grasping for as extensive an impact as possible with respect to the accessibility of mined rock when they have been consistently myopic throughout these proceedings regarding the environmental risks of this mining – telling the Court, for example, that this mining is proceeding in only a small, environmentally insignificant area of wetlands.

project to test this type of reservoir apparently is taking place around Lake Okeechobee, Tr. 3415-16.[312]

The question of further infrastructure development for our growing population is at the heart of several of Intervenors' expressed concerns. One of the Intervenors' witnesses, Richard Pettigrew, testified about the larger community's desire to limit further development to the west in Miami-Dade County and that his support for the creation of a vast network of mining pits was consistent with that desire. Ironically, he testified that the Governor's Commission for a Sustainable South Florida[313] had concerns about the potential suburban development of the Lake Belt area if limestone mining was not approved.

> Well, we thought if there had been no mining that inevitably suburbia would extend, as it had in Broward, right out toward the levee. And that, of course, is much more harmful than the choice of mining. Because people use pesticides, they use gasoline, they use all kinds of household products, and all of them tend to get into the environment and to add to the burden of the environment.

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[312]Further, the water storage aquifers which are the "Lakebelt-related components of the Comprehensive Everglades Restoration Plan ... are only conceptual at this point and require further environmental analysis." Declaration of Terrence "Rock" Salt, dated April 25, 2006, Exhibit 3, Docket No. 103.

[313]A report issued by the Governor's Commission, of which Mr. Pettigrew was chair, evaluated the Corps' proposed C&SF Project Restudy. (See Sierra Club, 423 F. Supp. 2d at 1292.) "In the design of the Lake Belt reservoir pilot project and detailed design of the components in the vicinity of the Northwest Wellfield, the Restudy shall consider the directive of the Florida Legislature that the Northwest Wellfield retain its designation as a groundwater source of water supply. The change of designation could cost in excess of $260 million to the local government to modify the current treatment processes at the [water treatment plants]." Plaintiffs' Exh. 163 (Governor's Commission for a Sustainable South Florida, Restudy Plan Report, January 20, 1999).

Tr. 3386-87.[314] The mining, however, apparently also uses, or used, gasoline or other fuels to conduct its blasting events, which may have resulted in the present contamination of the Aquifer with benzene.

> Unfortunately, ... the history of South Florida ... [is that we need these 80-foot-deep pits there in the Lake Belt, because absent that no one's going to have the will to make a hard decision to protect wetlands] . . . . I think the risk is very substantial that if we were to stop all rock mining and let them sell off their land, and then we left it up to locally elected public officials, we would have land use changes.

Tr. 3414-15.[315] "I would rather have lakes with some improvements to make them more lake-like and the flexibility of stormwater treatment areas in related area[s] ... and to have the flexibility of future reservoirs as needed if [aquifer storage recovery] doesn't work." Tr. 3416.[316]

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[314]Mr. Pettigrew admitted that the Governor's Commission never looked at the issue of benzene, nor at whether petroleum hydrocarbons were released as part of the blasting process associated with rock mining. Trans. 3405. Pettigrew acknowledges that "if there's some use of benzene or other volatiles of that nature [by the mining operations,] I think the Court should appropriately say no more." Trans. 3438-39. He later modified his statement as follows: "if there's benzene that's been detected in the production wells, if it's not being taken care of at the water treatment plant by the current aeration system, then that could be a problem and should be addressed." Trans. 3450.

[315]This Court is not willing to take such a dismal view of locally elected public officials.

[316]Mr. Pettigrew was questioned about prior objections to these permits submitted by Everglades National Park regarding the potential effects of Lake Belt-related seepage and other risks to the resource (the Park). He testified that there is a distinction between the Superintendent (or "policy-level people") and "certain hydrologists . . . who are often at variance in their views from those of the policy people." Trans. 3418. It appears that Mr. Pettigrew was unaware that the objection to these permits was raised not by a "certain hydrologist" but rather by the Park's Superintendent at the time, Maureen Finnerty. AR825, see also Plaintiffs' Exh. 71 Superintendent Finnerty's statement on behalf of the national resource, ENP, leaves no

The Court also notes the expressed concern with the "public perception" and the fact that allowing the mining to continue under these permits will be a "benefit" to the public's perception of a cooperative effort to restore the Everglades. Mr. Pettigrew testified that he is:

> concerned that a major dislocation [of the mining companies' activities] would undermine that support that was fundamental to getting the support of hte business community, which was very important in dealing particularly with the State legislature and with the Congress, and I don't want to jeopardize that by seeming to depart from the support that had been developed by saying that, you know, the public/private partnership that was developed was wonderful in getting it passed, but now we're going to take it away.

Trans. 3398. He admitted, however, that the public "might not necessarily [be] unhappy with [a decision to stop the mining of the Lake Belt], except as to the consequences. They would be very upset about the increased prices and costs and the implications for the economy of the region." Tr. 3411 (Pettigrew). Mr. Pettigrew did not address the question of increased costs which already have been paid by the public for investigation of the benzene contamination incident, arguably caused by the mining activities, or the

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room for misinterpretation by the Corps:

> We believe that mining closer than 2,000 feet to this conveyance [L-31N] canal will directly impact the hydrologic conditions in the adjacent marshes of Everglades National Park, and indirectly impact our ability to provide water to downstream agricultural areas, the eastern watersheds of the park, and existing and future wellfields that support the communities of south Miami-Dade. To our knowledge mining has never been permitted this close to a primary water supply conveyance canal, such as L-31N.... Mining within lands in the area between 1,000 and 2,000 feet of the L-31N canal should not be included within any permit.

AR825/Plaintiffs' Exh. 71.

future costs related to necessary upgrades to the water treatment plants.[317]

Earlier this year a district court in West Virginia, where coal mining "has long been part of the fabric of Appalachian life, providing jobs to support workers and their families and energy to fuel the nation," issued an injunction against mining activities because the Corps had issued §404 permits without first preparing an EIS. Ohio Valley Envtl Coalition v. United States Army Corps of Eng'rs, 479 F. Supp. 2d 607 (S.D. W.Va. 2007) (note that an appeal has been filed). Judge Chambers elected to impose an injunction, and to rescind the permits, instead of only remanding, apparently because he found "fundamental deficiencies in the Corps' approach" and apparently also because he previously had remanded the permits (in response to the Corps' request for voluntary remand) but the Corps reissued the permits shortly thereafter with a supplemented administrative record. Id. at 617. "Congress mandated the Corps 'maintain the chemical, physical, and biological integrity of the Nation's waters,' which may require the Corps ultimately to deny the permits if the adverse impacts to the waters are significant." Id. The method of coal mining at issue involved the removal of rock on top of a mountain under which horizontal seams of coal are found. The removed rock is placed in adjacent valleys while the coal is extracted, then some of the rock is placed back on top of the mountain to achieve the "original contour" of the mountaintop, and the rest of the rock remains in the valleys, burying intermittent and perennial streams. Id. at 615.

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[317]Indeed, the shortfall between what the mitigation fee will collect from the mining industry, i.e., a total of $37.5 million if all of the mining was completed under these permits, and the anticipated costs of the upgrades, $97.9 million, at a minimum, appears to represent a much greater cost to the public than the costs which are anticipated to increase for the construction of the Tamiami Trail project, $13.75 million.

(citations omitted). The parallels between the two mining cases (the West Virginia case, and this case) are striking: the Corps had attempted to justify approval of the mining because of prior mining activities in the area, id. at 630-31,[318] the mining activity leaves indelible imprints (whether as artificial lakes on top of a contaminated Aquifer or as reshaped mountain tops with blocked streams below), the natural resource at issue is important to the economy (coal, limestone), a group of companies were issued permits at one time (five coal mining companies, 615), the administrative records were extensive id. at 615, 626) ("it is not the amount of the Corps' efforts that is at issue here; rather, what matters is whether the results meet the proper standards." 626), projects were revised "at least in part to reduce the environmental concerns," id. at 626, and the Corps' mitigation plans were found to be flawed, Id. at 652. "The Corps argues that the context of this project, being in previously mined areas, weighs heavily in support if [sic] its conclusion. Clearly, mining activities already have disturbed a sizeable area of the watershed and caused unfortunate degradation of the streams. However, this fact does not provide a license to destroy more streams without assessing the cumulative impact of this additional destruction." Id. at 659.[319]

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[318]"The Corps' staff clearly devoted substantial time and effort reviewing and considering the applications.... The staff obviously took the Corps' responsibilities seriously and endeavored to produce decisions that tracked the standards set in the statutes and regulations which the Corps is duty-bound to apply.... The Court's criticisms arise more from the practices and fundamental assumptions used by the Corps than from the expertise or diligence of the staff." p. 10 of that opinion

[319]"While this is a laudable effect [an improvement in some of the water quality will result from the flooding of the valleys which will neutralize the acid from past mine drainage], the purpose of the valley fill is not to remedy harm caused by unregulated or poorly controlled past mining." P. 35, Fn 85. "Therefore, the Court, although

For many of the same reasons that Judge Chambers entered his ruling in West Virginia, this Court now enters its ruling here. The Court finds that the record in this case requires that these permits be set aside before any further destruction of the environment. In summary, the Corps' weighing of the "public interest" in continued mining resulted in a decision which is contrary to the statutory and regulatory guidance and, therefore by definition is contrary to the "public interest." Because the Corps' analysis of the "public interest" was so significantly flawed, this Court has determined that these permits must be set aside.

Balancing the relationship between short-term uses of environment and maintenance and enhancement of long-term productivity

For the same reasons detailed above, in the public interest review, the Corps' balancing of the short-term uses of the environment against the maintenance and enhancement of long-term productivity was flawed.

> 'NEPA does not demand that every federal decision be verified by reduction to mathematical absolutes for insertion into a precise formula.' Nevertheless, 'an agency [must] search out, develop and follow procedures reasonably calculated to bring environmental factors to peer status with dollars and technology in their decisionmaking.'. . . However, every attempt to assign a dollar value to future effects of present actions necessarily involves prediction. Such opinion estimates can be most precise when the systems involved are simple. As they become more complex and interactive, the ability to forecast becomes more a guess and less a prediction.

Sierra Club v. Morton, 510 F.2d 813, 827 (5th Cir. 1975) (citations and footnotes omitted).

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sympathetic to the substantial economic benefits stressed by Intervenors, must ensure the Corps complied with the requirements of the CWA." p. 23 n50.

CONCLUSION

To summarize, the Court has determined that these permits must be set aside because the adverse environmental effects from these mining activities are not outweighed by the beneficial effects. In other words, keeping limestone products available for purchase from local producers and the collection of funds from mining companies to be used to acquire wetlands for restoration do not outweigh the risk of Wellfield contamination,[320] the destruction of wetlands including foraging habitat for the endangered wood stork (and the "take" of wood storks), and the potentially damaging seepage impacts which have yet to be fully studied. The Court's March 2006 decision on summary judgment was compelled by the record before it at that time, and the decision to set aside these permits is compelled by the record at present. The Corps simply has failed to abide by its governing regulations, and its failure to disclose the benzene contamination to the public, and to this Court, and to consider it fully is the most egregious example of these failures. The Corps' approval of this mining is contrary to the directives of NEPA, the CWA, and the ESA.

As previously noted, if the Corps had pursued the plan for the full fifty-years of mining, "the Court would have invalidated the permits and directed the Corps to deny the permits (rather than simply remanding the case for further study). Such a conclusion would have been required under NEPA (and the CWA) because of the significant adverse effects and the Corps' insufficient mitigation and other analyses."

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[320]Future mining activities also will generate funds to pay for a portion of the costly upgrades to water treatment facilities which would not be necessary but for the mining activities.

March 22, 2006 Order p. 106.[321]

Nothing in the evidence presented to the Court subsequent to my earlier finding has changed my conclusion that these "bridging permits" are intended to survive much longer than ten years, and that – even as to the shorter term of ten years – the permits suffer from serious shortcomings.

To borrow a phrase from the Honorable Patricia Wald, formerly of the United States Court of Appeals for the District of Columbia Circuit, this Court has "taken a long while to come to a short conclusion:" these permits should not have issued.[322] And, the

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[321]To some readers this decision may appear to raise issues of violations of principles of agency deference, judicial restraint, or, perhaps, even the doctrine of separation of powers. Those readers would be woefully mistaken. Any of these potential accusations against this Court would be a small price to pay for a clear conscience that I had faithfully executed my oath as a judicial officer by analyzing whether major federal agencies had done their very important jobs.

[322]Judge Wald was writing for the majority in Sierra Club v. Costle, 657 F.2d 298 (D.C. Cir. 1981) (which included then-Judge, now Justice Ruth Bader Ginsburg), in a case which required the appellate court to determine whether the EPA had properly promulgated standards for the emission of sulfur dioxide by coal-burning power plants. Allegations by the plaintiffs included that the agency had engaged in improper ex parte contacts with representatives of the industry being regulated (including meetings with White House staff and the President, which had not been docketed in the EPA's rulemaking record) as well as a lack of authority under the Clean Air Act to issue the type of standards that it did. The appellate court ultimately rejected, in a comprehensive opinion, all of the plaintiffs' challenges to the rulemaking proceedings. The court held that if due process concerns are not implicated, and the docketing of such communication is not specifically required by statute, and if the communications do not contain information or data, they need not be docketed in the rulemaking record. The court's description of its burden in that case fits my impression of my own role in the present challenge to these permits which allow extensive blasting and destruction of wetlands in the name of accessing the limestone below.

> We reach our decision after interminable record searching (and considerable soul searching). We have read the record with as hard a look as mortal judges can probably give its thousands of pages. We have adopted a simple and straight-forward standard of review, probed the agency's rationale, studied its

activities pursuant to these permits should not continue. These activities should not have been permitted in the first instance if the Corps had been conducting the level of analysis mandated by the CWA, ESA, NEPA, and APA, and the relevant regulatory guidance. The Corps has been blind to the lasting effects of the mining activities approved in these permits. At the hearings before this Court, the Corps took the narrow view of examining only those impacts from mining that will occur in the next few months, i.e., until the Corps publishes the SEIS. The evidence suggests that the Corps has already concluded that mining must proceed, no matter the cost to the environment – this predetermination of the issues is unacceptable, and ignores the harm already suffered in the past five years of activity which should never have been permitted in the first instance; some of those harms may very well be irreparable. The Corps' role as builder conflicted with its role as protector of the wetlands in this case.

This region's (and, indeed, this State's) ecosystems can sustain our growing

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> references (and those of appellants), endeavored to understand them where they were intelligible (parts were simply impenetrable), and on close questions given the agency the benefit of the doubt out of deference for the terrible complexity of its job. We are not engineers, computer modelers, economists or statisticians, although many of the documents in this record require such expertise and more.
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> Cases like this highlight the critical responsibilities Congress has entrusted to the courts in proceedings of such length, complexity and disorder. Conflicting interests play fiercely for enormous stakes, advocates are prolific and agile, obfuscation runs high, common sense correspondingly low, the public interest is often obscured.
>
> So in the end we can only make our best effort to understand, to see if the result makes sense, and to assure that nothing unlawful or irrational has taken place. In this case, we have taken a long while to come to a short conclusion: the rule is reasonable.

Sierra Club v. Costle, 657 F.2d 298, 312-314 (D.C. Cir. 1981) (footnotes omitted).

population only if the federal government fulfills its responsibility for wise stewardship of non-renewable resources. Intervenors have cited this Court's own earlier ruling on the extension of Interstate-75 from Broward County to Miami-Dade County, Florida Wildlife Fed'n v. Goldschmidt, 506 F. Supp. 350, 353 (S.D. Fla. 1981), in support of their claim that this Court should decline to impose any remedy for the Defendants' serious violations. It is ironic that Intervenors have selected this case for citation, particularly because it contains striking parallels to the present case – none of which support Intervenors' position. The citations selected by Intervenors are taken out of context and their import is exaggerated.[323] It is particularly surprising that Intervenors would direct this Court to that holding, as it contains the following clear statement: "Bearing in mind that these are not the dollars of a private . . . corporation but those of the taxpayers and citizens which would be forever lost." Id. at 371. In the present case, the costs are again to be born by the taxpayers, not for the reasons urged by Defendants, but rather because the consumers of municipal drinking water in Miami-Dade County will be left with a substantial bill for upgrades to the water treatment plants which will not be fully

[323] The Court's decision in that case was not "because [a preliminary injunction] would both inflict harm on companies that had made substantial investments and reliance on permits and deprive 'residents and taxpayers not only their tax dollars but also of their access to safe, efficient means of both routine local travel and emergency evacuation,'" Docket No. 352, pp. 103-104, but rather was based on the plaintiffs' lack of success in establishing "the substantial threat of irreparable injury necessary to justify a preliminary injunction," Goldschmidt, 506 F. Supp. at 370; in light of such a failure of proof, the balancing of harms clearly weighed in favor of the federal defendants – direct spenders of the taxpayers' funds. Id. at 372-373.

paid for by the mitigation funds to be paid by the Intervenors.[324]

Indeed, this Court's decision in the Goldschmidt case, rendered less than four years after this Court began judicial service, provides an important counterpoint to the present case.[325] As stated earlier, this case presents the first time in three decades of judicial service that this Court is left with the impression that a federal agency has exhibited a disregard for its duty. Unlike in Goldschmidt, where this Court noted that it had "more than a little difficulty ascribing to Defendants [including the Corps at that time] such bad faith and utter disregard of duty," 506 F. Supp. at 370, as was alleged by those plaintiffs, in the present case the Court has found numerous examples of the Corps' failure to follow its own regulations, and perhaps an overall lack of appropriate interest in protecting the environment. To be clear, this is not a conclusion which sits comfortably with the Court; indeed, at this stage of my judicial career it is deeply disappointing to be faced with a situation where an agency has been subjected to overwhelming pressures to approve a questionably supported action.

The extraordinary assertions by the Defendants regarding a Hurricane Katrina-type impact and the Intervenors' predictions of a severe recession if this Court does anything to affect the future of mining – when added to the Defendants' and Intervenors'

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[324]Indeed, it is possible that the upgrades will not even have commenced before mining ceases in this area and, presumably, the corporations may refuse to pay any further fees, even though the upgrades are required because of these corporations' private, profitable, activities which already have occurred. And this is just one example of the lasting impacts from these improperly permitted mining activities.

[325]One witness, William Pitt, whom the Court found credible then as well as today, and multiple similar issues such as water quality/Aquifer contamination, secondary development effects, sufficiency of the EIS, etc.

claims that this Court's actions will place restoration of the Everglades in jeopardy – effectively have masked the underlying facts of this case. The "economic" issues in this case are extremely important, but these are private companies who have operated since 2002 under these permits, and who should have taken account of the risk that some day their mining into the Aquifer and near the main Wellfield of Miami-Dade County might be prohibited.

Simply put, the decision to issue the severe remedy of vacating these permits while permitting the corporations to complete a brief period of mining[326] is one which the record compels. The Court finds that Defendants' record of making important decisions without mandatory public disclosure and participation, the Corps' stubborn determination to approve this mining regardless of the proven detrimental impacts of these activities so near a major municipal water source, and the inherent conflict in the two roles the Corps attempted to play throughout this process lead to a lack of confidence in this agency at this time. The Court has followed the environmental statutes, regulations, reported decisions in this area, and other relevant authorities in making this decision. As a nation, we must ever regard our natural resources as a trust to be used for the welfare of all humankind. As noted by Defendants' counsel,

> "Congress has entrusted [the Corps] with overseeing the costly restoration of the Everglades . . . . Congress has entrusted [FWS] with avoiding jeopardy to endangered species by consulting with federal agencies, such as the Corps of Engineers, and with taking other actions to try to recover endangered species,

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[326]As noted above, the delay in effect of this Order is only to allow for some transition for the Intervenors' employees – beyond the fifteen months that already have passed since entry of this Court's Order in March 2006 and during which appropriate planning may have occurred.