

**Center for Biological Diversity • Conservancy of Southwest Florida • Earthworks**  
**National Parks Conservation Association • Natural Resources Defense Council**  
**South Florida Wildlands Association**

August 14, 2015

Tamara Whittington  
Superintendent  
Big Cypress National Preserve  
33100 Tamiami Trail East  
Ochopee, Florida 34141

*Re: Nobles Grade 3-D Seismic Survey/Plan of Operations*

Dear Superintendent Whittington,

We, the undersigned organizations, write to provide comments on the proposed Plan of Operations (“POP”) for the Nobles Grade 3-D seismic survey (project no: 13BOC2197). The revised POP, proposed by the Burnett Oil Company (“Burnett” or “applicant”) for the Big Cypress National Preserve (“BNCP”) and the Big Cypress National Preserve Addition (“BCNPA” or “Addition”) (collectively, “the Preserve” or “Big Cypress”) would affect more than 110 square miles of the Preserve.

As drafted, the proposed POP would cause significant adverse impacts to the Preserve, contravene the Big Cypress National Preserve General Management Plan and Minerals Management Plan (“GMP/MMP”) and the agreement governing the exercise of oil and gas rights in the Addition. The operations would be likely to adversely affect federally-listed threatened and endangered species. The proposed POP may not be approved unless it is modified to comply with applicable laws, management plans, and agreements. The National Park Service (“NPS”) must prepare an Environmental Impact Statement (“EIS”), pursuant to the National Environmental Policy Act, (“NEPA”) that fully evaluates the impacts of the POP and considers reasonable alternatives to minimize impacts on the Preserve. Further, the NPS should not approve any POP until it updates the 1991 Minerals Management Plan for the Preserve and finalizes revisions to 36 C.F.R. Part 9, Subpart B (“9B Rules”) to ensure that standards governing oil and gas exploration and development take account of current information about modern-day technologies and practices, the resulting impacts, and best practices for environmental protection and mitigation.

**I. Introduction**

The Big Cypress was established by Congress “[i]n order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed,” including Everglades National Park. 16 U.S.C. § 698f (a). The National Park Service “envisions the preserve as a nationally significant ecological resource” and “a primitive area where ecological processes are restored and maintained and where cultural sites are protected from unlawful

disturbance.”<sup>1</sup> The Preserve is a linchpin of the ecosystem in southern Florida and home to a wide array of important species, including the Florida panther—one of the most endangered mammals in the country—as well as the wood stork, red-cockaded woodpecker, Florida black bear, bobcat, manatee, and rare plants like the ghost orchid. The Preserve is also beloved for the many outdoor recreation opportunities it provides. In 2014, the Preserve hosted almost 1.2 million guests.<sup>2</sup>

The Burnett Oil Company is requesting permission to conduct a seismic survey over more than 110 square miles of BCNP and the Addition. Approximately 75% of proposed project area is within the original preserve and 25% of proposed project area is within Addition lands.<sup>3</sup> The proposed POP would involve the construction of five separate staging areas in the Preserve and involve the passage of heavy trucks and other offroad vehicles through pristine habitat, likely creating well over 1,000 miles of new disturbance.<sup>4</sup> The vast majority of these impacts would occur in wetland habitats.

Large scale seismic surveying has the potential to significantly alter the character of BCNP, sensitive ecosystems, and the habitats of listed species. The revised POP does not adequately address potential conflicts with natural resources, and is not in compliance with the current 9B Rules, the GMP/MMP, or the Agreement Governing the Exercise of Reserved Oil and Gas Rights of Collier Enterprises and Barron Collier Company (“Addition Lands Agreement”).

We respectfully request that the National Park Service pursue the following actions when evaluating the proposed project:

- Require full compliance with the Management Plans applicable to the Preserve, the Addition Lands Agreement, and the 9B Rules, including:
  - Ensure that an accurate “area of impact” calculation is undertaken and require strict compliance with the 10% limit provided by the GMP/MMP.
  - Require greater analysis from the applicant of whether the Bear Island stipulation is met
  - Require that the applicant include an evaluation of all reclamation costs in the POP.
  - Adhere to buffer zones required by the GMP/MMP and Addition Lands Agreement.
  - Require staging areas be located away from environmentally sensitive lands, such as wetlands.
  - Require a full evaluation of other best management practices that should be applied in the proposed POP.
- Ensure robust public participation and input and full compliance with the National Environmental Policy Act, including:
  - Conduct a full Environmental Impact Statement to adequately consider the proposed POP’s effects on the environment and to evaluate reasonable alternatives.

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<sup>1</sup> National Park Service, Big Cypress National Preserve, General Management Plan and Final Environmental Impact Statement, Volume I, at iii (1991) [cited hereinafter as BCNP General Management Plan].

<sup>2</sup> National Park Service, Integrated Resource Management Applications (IRMA) Portal, Park Visitor Use Statistics, available at <https://irma.nps.gov/Stats/>.

<sup>3</sup> See Burnett Oil Co., Inc. *et al.*, Nobles Grade 3-D Seismic Survey, Big Cypress National Preserve and Big Cypress National Preserve Addition Plan of Operations at 12 (Dec. 2014) [cited hereinafter as Burnett Plan of Operations].

<sup>4</sup> See *Id.* at 86. Calculation is based on total distances between source and receiver points. It can be assumed that effectively all distances between source points will involve vehicle traffic by heavy vibroseis trucks. A significant portion of the total distance between receiver points is also likely to involve vehicle traffic, and refueling and other support vehicles are likely to create some additional disturbance.

- Ensure that the EIS considers the potential long-term and cumulative impacts of the proposed project on BCNP and the Addition lands.
- Include a full evaluation of reasonable alternatives to the current POP, including less invasive methods and additional monitoring and mitigation.
- Hold public meetings regarding the proposed project to ensure that the public has adequate opportunities to learn more about the proposed project and to provide input.
- Comply with the Endangered Species Act (“ESA”) by re-engaging in formal consultation with the United States Fish and Wildlife Service (“FWS”) to fully evaluate all potential impacts to wildlife.
  - Consultation under Section 7 of the Endangered Species Act for to the proposed project was inadequate. Initial consultation was not based on up-to-date and thorough listed species survey data, did not consider the indirect impacts to listed species, and failed to properly follow species consultation keys. Due to these deficiencies, adverse impacts to protected species were not adequately considered. NPS and FWS should reinstate consultation to fully review the proposed project’s impacts in order to properly evaluate the likelihood of adverse effects on listed species and their habitats. Approving this project without doing so would be a violation of the ESA.
  - On December 22, 2014, our organizations sent a letter to FWS that raised a number of concerns related to the impacts of the Nobles Grade 3-D seismic survey proposal on wildlife.<sup>5</sup> A copy of this letter was also sent to NPS, and is attached and incorporated by reference in these comments as Exhibit 1. The issues raised in this letter have not been addressed, but raise critical concerns about the proposed project that must be considered before any approval.
- Do not approve the POP until the NPS has updated the decades-old MMP and finalized updates to the 9B Rules, in order to ensure that the NPS takes account of current information about technologies and practices used in modern-day oil and gas exploration and development, the resulting impacts, and best practices for environmental protection and mitigation. Burnett Oil Company’s proposal is significantly different from other, historic operations conducted in Big Cypress. Thus, without these updated mechanisms in place, both regulators and the public are deprived of information necessary to fully assess the potential ramifications of the POP and to adequately oversee activities going forward.

## **II. The NPS has the authority and duty to reject proposed oil or gas projects that would significantly impair other values of the Big Cypress.**

The Big Cypress National Preserve was created by statute in 1974. In 1988, the Big Cypress National Preserve Addition Act (“Addition Act”) amended the 1974 Act to expand the Preserve. Under these laws, NPS is required to administer the Preserve “in a manner which will assure [its] natural and ecological integrity in perpetuity.” 16 U.S.C. § 698i(a). Proper administration of the Preserve includes issuing such rules “as [the Secretary of the Interior] deems necessary and appropriate to limit or control the use of

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<sup>5</sup> Letter from Conservancy of Southwest Florida *et al.* to Larry Williams, State Supervisor, U.S. Fish & Wildlife Serv. (Dec. 22, 2014) [cited hereinafter as December 2014 Conservation Group Letter to FWS] attached as Exhibit 1.

Federal lands and waters with respect to . . . exploration for and extraction of oil, gas, and other minerals . . .” *Id.* § 698i(b).

The Addition Act requires the NPS Secretary to issue rules “governing the exploration for and development and production of non-Federal interests in oil and gas . . . as are necessary and appropriate to provide reasonable use and enjoyment of privately owned oil and gas interests, *and consistent with the purposes for which the Big Cypress National Preserve and the Addition were established.*” *Id.* § 698m-4(a) (emphasis added). As noted above, Congress established the Preserve “[i]n order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed . . . and to provide for the enhancement and public enjoyment thereof.” *Id.* § 698f(a). More generally, the National Park Service Organic Act requires NPS to “promote and regulate the use of the National Park System by means and measures that conform to the fundamental purpose of the System units, which purpose is to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” 54 U.S.C. § 100101.

Under these laws, the National Park Service has broad authority to limit oil and gas exploration and development activities that would conflict with other resources in the Preserve. The NPS has long recognized, and exercised, this authority to regulate private interests in lands managed by the agency. For instance, in the Padre Island National Seashore Oil and Gas Management Plan (“Padre Island Plan”), the NPS acknowledged its “unambiguous authority to regulate nonfederal oil and gas development in units of the National Park System.”<sup>6</sup> The Padre Island Plan provides a useful discussion of the legal basis of this authority, stating:

*The authority to manage and protect federal property arises from the Property Clause of the United States Constitution. The Property Clause provides that “Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States . . .” U.S. Const. Art. IV, ¶ 3, cl. 2. Congress’ power over the public lands is without limitations, and extends to conduct that occurs on or off federal land which affects federal lands. Courts have consistently upheld Congress’ broad delegation of authority to federal land managing agencies under the Property Clause in a variety of contexts. See Kleppe v. New Mexico, 426 U.S. 526 (1976); Stupak- Thrall v. United States, 70 F.3d 881 (6th Cir. 1995) (upholding Forest Service’s authority to regulate privately-held surface rights to a lake within a wilderness area); Duncan Energy Co. v. Forest Service, 50 F.3d 584 (8th Cir. 1995) (upholding Forest Service’s authority to regulate activities on federally owned surface from activities related to private mineral rights underlying National Forest); United States v. Vogler, 859 F.2d 638 (9th Cir. 1988) (upholding NPS regulation of access to a private mining claim in a park); . . .*

*In 1916, Congress exercised its power under the Property Clause and passed the NPS Organic Act, 16 U.S.C. §1 et seq. Congress directed the NPS to “promote and regulate” units of the National Park System “to conserve the*

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<sup>6</sup> 2001 Oil and Gas Management Plan for the Padre National Seashore at 4, available at [http://www.psiee.psu.edu/news/2006\\_news/sept\\_2006/oil\\_and\\_gas\\_plan.pdf](http://www.psiee.psu.edu/news/2006_news/sept_2006/oil_and_gas_plan.pdf).

*scenery and the natural and historic objects and the wild life therein to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” 16 U.S.C. §1. Congress also mandated that the protection, management, and administration of such units “shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established...” 16 U.S.C. § 1a-1. Congress further authorized the Secretary of the Interior to “make and publish such rules and regulations as he may deem necessary or proper for the use of the parks...” 16 U.S.C. §3.*

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*The [9B Rules] fall within the broad scope of authority granted to the NPS from Congress under the NPS Organic Act - authority that includes the power to regulate conduct that occurs on or off federal land, which may affect federal lands. The regulations are designed to control conduct associated with private mineral rights on federal land to avoid or minimize harm to park resources and values. Thus, the United States need not own the mineral interest beneath Padre Island National Seashore to regulate rights associated with that interest that may affect the federally owned surface. Both state and federal law govern the conduct of oil and gas operations at Padre Island. However, to the extent that state laws conflict with the federal statutory and regulatory requirements governing the exercise of nonfederal oil and gas rights at Padre Island National Seashore, the state law must yield to federal requirements.*

*Id.*<sup>7</sup> The Padre Island Plan was reviewed and upheld by the U.S. Court of Appeals for the Fifth Circuit as a valid exercise of statutory and regulatory authority. *Dunn-McCampbell Royalty Interest, Inc. v. Nat'l Park Serv.*, 630 F.3d 431, 434 (5th Cir. 2011). The court acknowledged that the plan prohibits drilling, seismic exploration, the construction of pipelines, and other oil and gas infrastructure and/or activities in certain parts of the Seashore and that because of this “increased costs might discourage resource exploitation.” *Id.*

NPS must reject proposed oil or gas projects that are incompatible with the resources and other purposes of the Preserve. NPS may not approve the POP unless: (1) “the operator shows that the operations will be conducted in a manner which utilizes technologically feasible methods least damaging to the federally-owned or controlled lands, waters and resources of the unit while assuring the protection of public health and safety,” (2) operations at the site will not “constitute a nuisance to Federal lands or waters in the vicinity of the operations [or] significantly injure federally-owned or controlled lands and waters,” and (3) operations will not “substantially interfere with management of the unit to ensure the preservation of its natural and ecological integrity in perpetuity,” or “significantly injure the federally-owned or controlled lands or waters.” 36 C.F.R. § 9.37(a) (2014). In the event that a taking of private property would be caused by application of this third standard, “the plan of operations *may* be approved” by NPS. *Id.* (emphasis added). However, even in the case of a POP approval on the grounds that a taking of private property may occur, the NPS must still ensure that the first requirement stated above is met. *Id.* These regulations and NPS’ other authorities give the NPS broad authority to reject proposed operations that do not use all technologically feasible means to reduce the impacts to the Preserve, the wildlife that inhabit

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<sup>7</sup> Note that the NPS Organic Act has been moved from title 16 of the United States Code. It can now be found at 54 U.S.C. § 100101 *et seq.*

it, and the purposes for which it was established, or that otherwise injure the Preserve or interfere with the NPS' management goals.

The 2012 decision in *Minard Run Oil Co. v. United States Forest Service* has been used by some to argue against federal agency authority to regulate the impacts from oil and gas development, and to require environmental analysis and least-damaging alternatives where mineral rights are privately owned. 670 F.3d 236 (3d Cir. 2012). In *Minard Run*, the Third Circuit held that U.S. Forest Service review of proposals by private mineral rights owners for oil and gas development in the Allegheny National Forest did not constitute major federal actions subject to NEPA. *Id.* at 254. Multiple commentators have questioned the reasoning in *Minard Run*. See, e.g., Jeremy Goldstein, *Minard Run Oil Co. v. U.S. Forest Service: Split Estates in the Allegheny National Forest*, 39 Ecology L.Q. 635, 640 (2012) (noting that the holding in *Minard Run* and in a separate case in the Fourth Circuit are “directly at odds with conclusions reached by the Sixth, Eighth, Ninth, and Tenth Circuit courts.”) See also Jessica Diaz, *A Forest Divided: Minard Run Oil Co. v. U.S. Forest Service and the Battle over Private Oil and Gas Rights on Public Lands*, 40 Ecology L.Q. 195, 199 (2013).

Even if *Minard Run* were correct, however, the case is not applicable here. First, *Minard Run* limited its reasoning to lands acquired by the Forest Service under the Weeks Act. 670 F.3d at 252. The court noted that it interpreted the Weeks Act to “require[] that any rules or regulations that the Secretary wishes to apply to easements reserved by the grantor [] be ‘expressed in and made part of’ the instrument of conveyance.” *Id.* (quoting *United States v. Srnsky*, 271 F.3d 595 (4th Cir. 2001)).<sup>8</sup> No such restrictions apply to the National Park Service here. Congress explicitly contemplated subsequent NPS regulation and oversight of oil and gas development on the Big Cypress. See 16 U.S.C. § 698i(b) (directing NPS to develop “rules and regulations . . . to limit or control the use of Federal lands and waters with respect to . . . exploration for and extraction of oil, gas, and other minerals”); 16 U.S.C. § 698m-4 (providing that standards for oil and gas activities may be based in part on “exploration and development and production practices used in similar habitats or ecosystems within the Big Cypress National Preserve or the Addition at the time [rules are developed] . . . or at the time of the submission of the application”). Therefore, it is clear that NPS authority is much broader than that of the Forest Service under the Third Circuit’s reading of the Weeks Act.

In a non-Weeks Act case, the Eighth Circuit Court of Appeals held that the Forest Service had the authority to determine what constituted reasonable use of the federal surface by a private mineral owner. *Duncan Energy Co. v. U.S. Forest Serv.*, 50 F.3d 584, 591 (8th Cir. 1995). Moreover, the court held that to the extent that state law was inconsistent with that authority, it was preempted by federal authority. *Id.* While bright line tests have not been established by the courts to determine questions of what constitutes reasonable use of the surface estate, federal courts have confirmed that the power and authority of agencies to exert control is exercised procedurally in the manner normally used to regulate federal lands. In a similar situation, the FWS’s authority to protect the Baca National Wildlife Refuge was confirmed as a federal “action” subject to NEPA. *San Luis Valley Ecosystem Council v. U.S. Fish & Wildlife Serv.*, 657 F. Supp. 2d 1233, 1244 (D. Colo. 2009) (where mineral rights on National Refuge property are owned by third parties, the owner “shall, to the greatest extent practicable, conduct all . . . operations in such a manner as to prevent damage, erosion, pollution, or contamination to the lands, waters, facilities and vegetation of the area.” (quoting 50 C.F.R. § 29.32)).

Proposals by a private party to minimize costs are not determinative. Generally, where it is merely convenient for the owner of the mineral estate to use or occupy the surface estate, or where a less

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<sup>8</sup> *Srnsky*, the Fourth Circuit case mentioned in the law review article by Jeremy Goldstein, was also decided under the Weeks Act and its holding is therefore also inapplicable here, as discussed in the following paragraphs.

impacting alternative exists, a proposed use is not necessary and the surface owner may deny a proposal that would constitute trespass. *See, e.g. Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913, 928 (Colo. 1997). Even where a mineral owner proposes a “necessary use of the surface the [mineral] lessee has a responsibility to exercise its privilege reasonably, in a manner designed to minimize intrusion and surface damages.” *Id.*; *see also Noblin v. Harbor Hills Dev., L.P.*, 896 So. 2d 781, 785 n.2 (Fla. Dist. Ct. App. 2005) (approvingly citing multiple cases holding that the mineral rights holder may access only that surface which is “reasonably necessary” to access the oil and gas, and that the right of entry extends only to “such manner and [] such means as would be fairly necessary for the enjoyment of the mineral estate”).

It is important to note that the agency would not cause a taking of private property by rejecting the proposed POP. A taking occurs when an agency denies all economically viable use of a property in interference with its owner’s reasonable expectations for its use. *See, e.g., Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978); *see also Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1019 (1992) (takings occur where regulations completely deprive an owner of “all economically beneficial use” of a property). Use restrictions that serve a substantial public purpose have been upheld against “taking” challenges. *See e.g., Goldblatt v. Hempstead*, 369 U.S. 590 (1962), *Hadacheck v. Sebastian*, 239 U.S. 394 (1915). In the case of an NPS rejection of the proposed POP, Burnett would have the opportunity to modify its proposed operations to avoid and minimize the environmental impacts described herein, without being deprived of all economically viable use of its mineral rights.

NPS regulations expressly state that the 9B Rules “are not intended to result in the taking of a property interest, but rather to impose reasonable regulations on activities which involve and affect federally-owned lands.” 36 C.F.R. § 9.30(a). And as discussed above, the 9B Rules require that “the operator shows that the operations will be conducted in a manner which utilizes technologically feasible methods least damaging to the federally-owned or controlled lands, waters and resources of the unit while assuring the protection of public health and safety” in all cases. 36 C.F.R. § 9.37(a). Therefore, section 9.37 demonstrates NPS’ considered legal judgment that the application of the “technologically feasible methods least damaging” standard is within NPS’ authority to regulate reasonable use of the surface and *cannot* cause a taking.

As discussed further in section IV, the alternatives analysis required by NEPA provides an excellent tool for determining what constitute technologically feasible methods least damaging to the Preserve in the context of site-specific resource values, and for deciding whether to deny the POP as proposed because it does not adopt the least damaging alternatives.

### **III. The NPS must reject the current POP as it does not fully comply with Preserve management plans, the Addition Lands Agreement, and NPS regulations.**

The proposed Plan of Operations submitted by Burnett does not adhere to the rules and standards set forth in the GMP/MMP, the Addition Lands Agreement, and the 9B Rules. The NPS cannot approve the POP until it is modified to fully address these incompatibilities.

- a. NPS must ensure that an accurate “area of impact” calculation is undertaken, and must require strict compliance with the 10% limit provided by the GMP/MMP.*

Under 36 C.F.R. § 9.36, the applicant must, “[c]onsider and discuss the unit’s Statement for Management and other planning documents as furnished by the Superintendent” in the POP. The Nobles Grade POP does not clearly address how all stipulations in the Big Cypress National Preserve Minerals Management

Plan will be met.<sup>9</sup> This includes the stipulation that within the original Preserve, “[o]nly 10% of the preserve may be under the influence of oil and gas exploration and development activities at any given time.”<sup>10</sup>

The Area of Influence (AOI) is defined within the GMP/MMP as the area surrounding an activity that experiences changes in noise, hydrology, water quality, vegetation, soils, air quality, wildlife habitat, and visitor perception.<sup>11</sup> Geophysical surveys that do not use helicopters are assessed as having a 0.5 mile radius of influence, while those using helicopters (as is the case here) are assessed as having a 0.75 mile radius of influence. The GMP notes that at the time of the plan development, “a 39.4-mile geophysical survey operation routinely using helicopters for transportation could be allowed, providing a proposed plan of operations was approved.”<sup>12</sup> The applicant’s proposed survey significantly exceeds that mileage total.<sup>13</sup> The applicant, moreover, appears to assume that only the helicopter operations themselves need to be assessed using the 0.75 mile AOI, applying a 0.5 mile AOI even to staging areas where the helicopter will land and to receiver lines to which the helicopter will be running support flights.<sup>14</sup> This is not a reasonable application of the AOI standard.

The Applicant’s AOI calculation is flawed. The proposed survey area will cover approximately 9% of the original Preserve lands,<sup>15</sup> yet the applicant states that the AOI will not exceed 2.7% which, when combined with existing oil and gas activities, will result in only 5.4% of the Preserve being impacted.<sup>16</sup> The proposed POP notes that following the seismic survey, but before reclamation, the AOI for geophysical surveys is reduced to the area of direct impact.<sup>17</sup> However, the applicant appears to provide AOI calculations based on the number of working crews and not on the area of geophysical survey lines. Moreover, the applicant makes no calculation related to footprint of the entire project, but uses a method related to the “peak workday AOI,” which appears to encompass only a small fraction of the overall project.<sup>18</sup> Has NPS independently verified the applicant’s methodology and AOI calculations? Does the applicant adequately account for the area of direct impact from seismic lines? NPS should independently verify the applicant’s methodology for calculating the proposed AOI to ensure that the POP is in compliance with the 10% AOI limitation.

To ensure the 10% AOI limitation is not exceeded, it is critical that all possible long-term effects on the Preserve are fully evaluated prior to authorizing the Nobles Grade 3-D seismic survey. In studies conducted in other natural systems, seismic exploration has been found to have long-lasting effects.<sup>19</sup> Furthermore, the Big Cypress GMP describes seismic lines from the 1970s which were still visible years later in aerial photographs.<sup>20</sup> According to the POP, only 2 ½ square miles will be affected by vibroseis

<sup>9</sup> See BCNP General Management Plan, Appendix C (Minerals Management Plan).

<sup>10</sup> *Id.* at Appendix C, page 358.

<sup>11</sup> *Id.* at 58; *see also Id.* at Appendix B.

<sup>12</sup> *Id.* at 59-60.

<sup>13</sup> *See supra* note 4 and accompanying text.

<sup>14</sup> *See* Burnett Plan of Operations, *supra* note 3, at Exhibit 14, pages E-14-4 to E-14-5.

<sup>15</sup> Calculated as  $70,454 * .75 =$  approximately 52,840 acres in the original preserve, and  $52,840.5/576,442$  acres = .09 or 9% of the original Preserve.

<sup>16</sup> Burnett Plan of Operations, *supra* note 3, at 103.

<sup>17</sup> *Id.* at 60.

<sup>18</sup> *Id.* at Exhibit 14, page E14-5.

<sup>19</sup> Jorgenson, J., Ver Hoef, J., Jorgenson, M., Long term recovery patterns of arctic tundra after winter seismic exploration, U.S. Department of Commerce Publication (2010) *available at* <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1197&context=usdeptcommercepub>.

<sup>20</sup> BCNP General Management Plan, *supra* note 1, at 161.

operations on any given day, and operations will leave little to no trace.<sup>21</sup> However, it is unrealistic to assume that a location will return to its original state immediately (or perhaps ever) following this type of seismic survey, as rutting or damage from vibroseis vehicles could have lasting effects on vegetation, soil conditions, and local hydrology. For further discussion of some of the potential lasting impacts of geophysical surveys, see sections IV(a)-(b) and V.

Additionally, the applicant's analysis is based on the assumption that complete reclamation will happen immediately, in all cases. However, in some cases it may not be possible to know whether impacts have occurred. Adverse impacts such as rutting of the soil, changes in hydrology, and introduction of invasive plant species, among others, may only become apparent months after the seismic survey has taken place. Some of these impacts may be difficult or impossible to completely reclaim or eliminate.<sup>22</sup> It is therefore, unrealistic to assume that all of the impacts of the proposed operation are reclaimed on the day that they occur. This is important to note because the underlying assumption being made by the applicant is that the AOI can be calculated to take into account only the impacts that occur on a "peak workday," and that all previous impacts will have vanished. The NPS should carefully examine the applicant's AOI analysis and require the applicant to develop a more realistic and precise calculation of the actual AOI likely to occur in the Preserve as a result of its proposed project.

The proposed project must also be considered in conjunction with adjacent proposals. The applicant originally proposed a 234,510 acre project and indicated in the December 2014 POP that additional survey phases may be pursued in the future.<sup>23</sup> It is critical that the potential for additional surveys within the Preserve be considered in conjunction with adjacent proposals, including the 103,000 acre seismic survey proposed by Tocala LLC to the north of Big Cypress, as these projects may result in cumulative, large scale impacts to wildlife and other natural resources.<sup>24</sup>

*b. NPS must require information necessary to accurately assess whether the Bear Island Stipulation is met.*

The Minerals Management Plan stipulates that "[t]he area of direct impact in the Bear Island unit may not exceed the acreage of un-reclaimed access roads, pads, and pipelines in the unit as of May 1, 1991."<sup>25</sup> Similar to the applicant's AOI analysis, compliance with this stipulation is also predicated on the applicant's unsubstantiated assumption that "no lasting direct impacts are expected."<sup>26</sup> As previously discussed in subsection III.a, this assumption is unrealistic. Importantly, the applicant also fails to provide any documentation to substantiate the extent of reclamation in the Bear Island unit in order to determine whether the POP will meet this requirement. Instead, the applicant speculates, "[i]t is the Applicant's *understanding* that over the past 20 years a significant portion (approximately 50 percent) of the Bear Island oil field infrastructure (direct impacts) has been reclaimed, thus providing the possibility of allowing a like amount of new direct impacts to occur should they be permitted."<sup>27</sup> Compliance with the Bear Island stipulation must not be based on the applicant's speculation or assumptions, but rather, on substantiated documentation of successful reclamation of the Bear Island facilities.

<sup>21</sup> Burnett Plan of Operations, *supra* note 3, at 4.

<sup>22</sup> See, e.g., *infra* sections IV(b)(i)-(ii).

<sup>23</sup> Burnett Plan of Operations, *supra* note 3, at 1.

<sup>24</sup> For further information, see December 2014 Conservation Group Letter to FWS, *supra* note 5, and attached maps.

<sup>25</sup> BCNP General Management Plan, *supra* note 1, at Appendix C (Minerals Management Plan), page 359.

<sup>26</sup> Burnett Plan of Operations, *supra* note 3, at 105.

<sup>27</sup> *Id.* at 103, 105 (emphasis added).

- c. *The applicant has not provided estimated reclamation costs, as required by 36 C.F.R. § 9.36.*

According to section 36 C.F.R. § 9.36, the applicant must provide estimated reclamation costs in the POP. However, the applicant fails to provide these costs stating that, “[a]nticipated reclamation costs are part of a sub-contracting package that cannot be finalized prior to plan approval.”<sup>28</sup> It is unclear why the applicant is unable to provide an estimate of reclamation costs now. While further precision may be possible once a contract with the applicant’s subcontractor is finalized, the applicant can and must develop its best estimate now to comply with the requirements of 36 C.F.R. § 9.36. NPS cannot fully evaluate whether the applicant’s proposed reclamation plans are sufficient, or whether the bond amount is appropriate without a reasonable estimate of reclamation costs. NPS could be left with significant reclamation costs in the future, which could delay reclamation efforts and result in further ecological damage. This problem underscores the necessity of delaying any consideration of the proposed POP until NPS’ updates to the 9B Rules are finalized, as the proposed changes are expected to provide for larger bonding levels and updated criteria for reclamation cost review. (See section VI for a detailed discussion.)

Pursuant to 36 C.F.R. § 9.39, the applicant must provide provisions for reclamation. This includes replacing natural top soil for vegetative restoration and reestablishing native vegetative communities. The applicant mentions that some cutting of vegetation will be done.<sup>29</sup> However, section 7 of the POP makes little mention of restoring plant communities. Does the applicant intend to replant any vegetation that has been removed or damaged directly by vehicles and other equipment, or indirectly due to impacts to local hydrology? If the proposed project is approved, the applicant may leave voids in vegetation coverage that may have unforeseen long term impacts on local ecology and community composition. Furthermore, the applicant’s timeline for reclamation is over a 30-day period<sup>30</sup> following which, the bond will be returned.<sup>31</sup>

Long term impacts resulting from the proposed project may not be realized, or even apparent, over such a short time frame. The applicant acknowledges this in the discussion of the field testing of vibroseis equipment stating that, “[f]ull restoration is anticipated within the wetland area by the end of the 2014 growing season.”<sup>32</sup> However, photographs from field testing of vibroseis vehicles show tracks in wetlands six months after testing was conducted, indicating that whether restoration is complete will not be able to be evaluated within 30 days.<sup>33</sup> Other adverse impacts, such as the introduction of invasive plant species, among others, may also not be discernible for a significant period of time. The applicant must be required to include estimated costs for maintenance and monitoring of these impacts for a period of time specified by NPS, but no less than one year from completion of the proposed project, as well as the costs associated with the restoration or remediation of any impacts that become apparent during this time period, in order to ensure that full restoration is accomplished, as required by 36 C.F.R. § 9.39.

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<sup>28</sup> *Id.* at 120.

<sup>29</sup> *Id.* at 74.

<sup>30</sup> *Id.* at 119.

<sup>31</sup> *Id.* at 18.

<sup>32</sup> *Id.* at Exhibit 8 (Field Testing of Vibroseis Buggy), page 6.

<sup>33</sup> *Id.* at Exhibit 8 (Field Testing of Vibroseis Buggy), part Exhibit I (Follow-up Site Review Photographs, June 6, 2014), pages 2-5.

*d. The proposed POP appears to violate requirements related to Important Resource Areas in the Preserve Minerals Management Plan*

The Minerals Management Plan prohibits the use of motorized vehicles for geophysical exploration within any vegetation community identified as an Important Resource Area with the exception of old-growth pinelands.<sup>34</sup> These areas include cypress strands / mixed-hardwood swamps / sloughs and cypress domes, marshes, hardwood hammocks, old-growth pinelands, and mangrove forests.<sup>35</sup> In the POP, the applicant acknowledges that several of these communities are present within the proposed project area.<sup>36</sup> Yet, there is no evidence that that these areas will be avoided in the proposed POP. Therefore, the NPS should not approve the proposed POP unless it is modified to include avoidance polygons ensuring that operations will avoid Important Resource Areas, as required by the MMP.

*e. The proposed POP appears to violate requirements related to buffer zones in the Preserve Minerals Management Plan and Addition Lands Agreement*

The Preserve Minerals Management Plan and the Addition Lands Agreement contain requirements that activities not occur within specified distances of certain sensitive ecosystems or species habitats. However, the proposed POP fails to demonstrate compliance with many of these requirements, and in some cases appears to violate them outright.

For instance, the MMP requires, among other things, that for geophysical operations “[m]otorized geophysical vehicles are not permitted within 0.5 mile of red-cockaded woodpecker cavity trees during the nesting season. Helicopters may not be operated within 0.75 mile of red-cockaded woodpecker cavity trees at any time.”<sup>37</sup> The proposed POP acknowledges that red-cockaded woodpecker (“RCW”) nesting season coincides with proposed survey activities, but goes on to state that “a buffer of 61 meters (200 feet) in width will be maintained between RCW clusters and any foot or ORV traffic. . . . In order to further reduce potential RCW disturbances, a 61 meter (200 foot) buffer will be established vertically and applied to helicopter activity above active cavities.”<sup>38</sup> This proposal, which adopts a buffer equivalent to 0.038 miles – less than one tenth the required distance – flatly contradicts the MMP and requires that the proposed plan of operations be rejected.

Likewise, the MMP requires that “[g]eophysical operations are not allowed within 1.25 miles of a bald eagle nest during the nesting season.”<sup>39</sup> While there are not identified bald eagle nesting sites within the project area, the applicant acknowledges that the survey will take place during bald eagle nesting season. Nonetheless, the applicant goes on to state that “buffer zones will adhere to the USFWS and FWCC recommended 660-foot buffer protection zone.”<sup>40</sup> This provision of the proposed POP adopts a buffer that is only one-tenth of the required distance. The proposal directly violates the MMP, and must be rejected.

The Addition Lands Agreement also requires that operations taking place within the BCNPA adhere to certain buffer zones. For instance, the agreement requires that “[n]o operations may occur within a one-half mile buffer zone of any Federally-owned or -controlled building, campground, interpretive or

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<sup>34</sup> BCNP General Management Plan, *supra* note 1, Appendix C (Minerals Management Plan), at 358-59.

<sup>35</sup> *Id.*, Appendix C (Minerals Management Plan), at 358.

<sup>36</sup> Burnett Plan of Operations, *supra* note 3, at 145-151.

<sup>37</sup> BCNP General Management Plan, *supra* note 1, Appendix C (Minerals Management Plan), at 360.

<sup>38</sup> Burnett Plan of Operations, *supra* note 3, at 201-202.

<sup>39</sup> BCNP General Management Plan, *supra* note 1, Appendix C (Minerals Management Plan), at 360.

<sup>40</sup> Burnett Plan of Operations, *supra* note 3, at 202.

research site or other facility in which the National Park Service has invested public funds to further the purposes for which the unit was established and which is in existence at the time of the submission of the plan, unless (i) the Regional Director agrees that such operations would not significantly adversely affect such sites or facilities or visitor values.”<sup>41</sup> The applicant proposes to site multiple staging areas along the Florida National Scenic Trail, and appears to propose using the trail as a vehicle corridor between staging areas MM-63S and MM-63S-2. Additionally, staging area MM-63S-2 appears to be in very close proximity to a campsite marked on official Preserve maps.<sup>42</sup> Clearly, the proposed staging areas and the activities proposed to occur in and around them would significantly adversely affect visitor experiences in these areas. Has the NPS invested public funds in these facilities? If so, the proposed POP is in violation of the Addition Lands Agreement and therefore, the POP must be rejected.

The Addition Lands Agreement also requires that “[s]urface operations shall at no time be conducted within 500 feet of: (A) the high water banks of strands, freshwater marshes, sloughs, lakes, ponds or streams; or (B) the high pool shoreline of natural or man-made impoundments.”<sup>43</sup> While there is a provision allowing the unit manager to waive this requirement, we strongly urge the Park Service not to do so, because the proposed surface operations would have significant adverse impacts on Preserve resources, particularly in wetlands. This requirement was included in the Addition Lands agreement for a reason and we can find no evidence that the applicant intends to comply. Just as one particularly noteworthy example, Mullet Slough, which ultimately flows into the Everglades, falls squarely within the boundaries of the proposed seismic survey area. The applicant’s maps of proposed source and receiver lines do not seem to indicate that any significant efforts have been undertaken to avoid Mullet Slough, much less to provide an appropriate buffer.<sup>44</sup>

*f. Staging areas must be directed away from environmentally sensitive lands.*

According to 36 C.F.R. § 9.36, the plan of operations must include maps of “[t]he location of existing and proposed access roads or routes to the sites.” The applicant intends to use accesses through new recreational parking areas for several of the staging areas, with multiple staging areas proposed in wetlands. This includes the primary staging area, MM-63S, which is proposed to accommodate large equipment, a helicopter landing zone, and support trailers. The applicant claims to select staging area sites based on utilization of previously disturbed areas with short access to existing recreational or service roads.<sup>45</sup> However, with four out of five staging areas located within wetlands, we fail to see how the applicant’s plans make adequate use of existing disturbed locations. Furthermore, as noted above, the MMP stipulates that the use of motorized vehicles for geophysical exploration is not permitted within any vegetation community identified as an Important Resource Area (“IRA”), with the exception of old-growth pinelands.<sup>46</sup> IRAs include several types of wetlands. There is no evidence that that these Important Resource Areas will be avoided during the proposed survey operations nor that these IRAs will not be encompassed in staging areas. The POP cannot be approved until it is modified to ensure IRAs are avoided, in compliance with the MMP.

Finally, allowing oil exploration operations to utilize recreational parking areas may interfere with the public’s enjoyment of the Preserve and present a safety issue for visitors attempting to traverse the

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<sup>41</sup> Burnett Plan of Operations, *supra* note 3, Exhibit 3 (Addition Lands Agreement) at 30.

<sup>42</sup> National Park Service, Official Map & Guide to Big Cypress, Side B, *available at* [http://www.nps.gov/bicy/planyourvisit/upload/BICY-S2\\_final.pdf](http://www.nps.gov/bicy/planyourvisit/upload/BICY-S2_final.pdf).

<sup>43</sup> Burnett Plan of Operations, *supra* note 3, at 316.

<sup>44</sup> *See e.g.*, Burnett Plan of Operations, *supra* note 3, at 262 (Map 2B).

<sup>45</sup> *Id.* at 41.

<sup>46</sup> BCNP General Management Plan, *supra* note 1, Appendix C (Minerals Management Plan), at 358.

parking area in the presence of heavy truck traffic. Additionally, to the extent that such parking areas are located within the BNCPPA, the applicant's proposed siting of staging areas may conflict with requirements in the Addition Lands Agreement, as discussed above, which require that "[n]o operations may occur within a one-half mile buffer zone of any Federally-owned or -controlled . . . facility in which the National Park Service has invested public funds to further the purposes for which the unit was established and which is in existence at the time of the submission of the plan."

- g. NPS must require a full evaluation of existing best management practices and these must be used in any permitted operations.*

As discussed in Section II, above, NPS regulations require that "the operator shows that the operations will be conducted in a manner which utilizes technologically feasible methods least damaging to the federally-owned or controlled lands, waters and resources of the unit while assuring the protection of public health and safety" in all cases. 36 C.F.R. § 9.37(a). The POP must also contain information on "[a]ll reasonable technologically feasible alternative methods of operations, their costs, and their environmental effects." 36 C.F.R. § 9.36. NPS should require the applicant to conduct a comprehensive investigation of the least damaging methods for conducting seismic exploration, verify that the analysis is complete, and ensure that the operator has chosen such methods. In addition to NPS materials, the analysis should include a review of other sources of information on the least damaging practices for conducting seismic exploration. For instance, the Intermountain Oil and Gas BMP Project, compiled by the Natural Resources Law Center at the University of Colorado includes a wide range of best management practices ("BMPs") that could be adopted by the applicant.<sup>47</sup> For instance, the applicant does not propose to utilize a "quarantine system" to inspect and clean incoming supplies. This is a practice listed by the Intermountain Oil and Gas BMP Project that could mitigate the risk of the introduction of invasive plant species into the survey area. In order to comply with NPS regulations, a full survey of BMPs that could reduce potential damage to the Preserve must be undertaken and the least damaging options that are technologically feasible must be adopted.

#### **IV. The NPS must fully analyze the effects of the proposed Plan of Operations, reasonable alternatives, and provide adequate opportunities for public input.**

The National Environmental Policy Act requires that where an agency proposes a "major Federal action[] significantly affecting the quality of the human environment," it must prepare an Environmental Impact Statement in which the agency considers the potential impacts of the proposed action on the environment and considers the impact of reasonable alternatives. *See* 42 U.S.C. § 4332(2)(C). Under NEPA, agencies must take a "hard look" at all of the environmental impacts of proposed actions using the best available scientific information. *See* 42 U.S.C. § 4332; *Kleppe v. Sierra Club*, 427 U.S. 390, 409 n.21 (1976). The agency must consider the direct, indirect, and cumulative impacts of its action when combined with other past, present, and reasonably foreseeable future actions. 40 C.F.R. § 1508.25. The agency must also consider the impacts of reasonable alternatives to its action. *Id.* Additionally, NEPA requires agencies to provide adequate opportunities for public involvement in their decision-making process, including providing notice of the availability of environmental documents and an opportunity to comment on the analysis. 40 C.F.R. § 1506.6.

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<sup>47</sup> *See* Getches-Wilkinson Center for Natural Resources, Energy, and the Environment, University of Colorado Law School, Intermountain Oil and Gas BMP Project, <http://www.oilandgasbmps.org/> (last visited Aug. 12, 2015).

a. *The NPS must prepare an EIS*

As noted above, NEPA requires an agency to prepare an EIS whenever a major federal action “significantly affects the quality of the human environment.” 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1502.4. A federal action affects the environment when it “will or *may* have an effect” on the environment. 40 C.F.R. § 1508.3 (emphasis added); *see also Sierra Club v. Peterson*, 717 F.2d 1409, 1415 (D.C. Cir. 1983) (“If any ‘significant’ environmental impacts might result from the proposed agency action, then an EIS must be prepared before the action is taken.”). If there are “substantial questions whether a project may have a significant effect, an EIS *must* be prepared.” *LaFlamme v. FERC*, 852 F.2d 389, 397 (9th Cir. 1988) (citing *Found. For N. Am. Wild Sheep v. U.S. Dept. of Agriculture*, 681 F.2d 1172, 1178 (9th Cir.1982)).

The U.S. Fish and Wildlife Service has noted that “[t]he extensive nature of seismic surveys and access requirements make seismic exploration among the most potentially disruptive and damaging type of oil and gas activity.”<sup>48</sup> Moreover, the seismic exploration activities are proposed to cover over 110 square miles of the Preserve. The proposed activities may have impacts on a wide range of resources and other values in the Preserve. Areas in which there is a potential for significant effects on the quality of the human environment, include:

- Adverse effects to federally-listed and other species and their habitats.
- Impacts to vegetation, including wetland plant species, from survey activities.
- Introduction or exacerbation of invasive plant species in the survey area.
- Conflicts with recreational activities and sites, including camping, hiking, and wildlife viewing.
- Creation of unauthorized off-road vehicle routes where seismic survey vehicles travel.
- Risks to the Big Cypress watershed from spills, erosion, or sedimentation, and the potential for impacts to the Everglades watershed.
- Impacts to lands with wilderness characteristics, potentially impairing the opportunities for future wilderness designation.
- Damage to cultural resources.
- Permanent changes to local hydrology.
- Compaction, rutting, and other damage to soils.
- Visual and noise impacts during the proposed operations.
- Long-term degradation of the natural and scenic qualities of the Preserve.

Whether impacts are significant depends on both their “context” and “intensity.” 40 C.F.R. § 1508.27. Here, because of the wide range of potential impacts and the large area of the Preserve affected, an EIS is required. Both the context and intensity of the proposed action demonstrate the significance of the proposed action. The context for this action is the fragile terrain, vegetation, and hydrology of the Preserve, and the coastal estuaries and Everglades ecosystems that depend on it. Among the factors that federal regulations note should be taken into account when evaluating intensity are:

- Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
- The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

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<sup>48</sup> U.S. Fish & Wildlife Service, Oil and Gas Exploration and Production, <http://www.fws.gov/refuges/oil-and-gas/exploration.html> (last visited Aug. 12, 2015).

- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.
- The degree to which the action may adversely affect an endangered or threatened species or its habitat.

*Id.* Each of these factors weighs in favor of a finding of significance. The Preserve is a significant national ecological and recreational resource that was set aside for protection by the U.S. Congress. Significantly, the applicant admits that 83% of the proposed survey area consists of wetland habitats.<sup>49</sup> In addition to the Everglades, the Preserve supports the estuarine fisheries of south Florida,<sup>50</sup> which approximately 90% of commercially harvested fish in Florida depend on.<sup>51</sup> The Preserve also ensures a fresh water supply for surrounding communities by providing clean water recharge of the surficial Aquifer, which, according to the 1991 GMP/MMP is “the prime source of freshwater for human use in Collier County and adjoining parts of Lee and Hendry counties.”<sup>52</sup> The proposed plan of operations has attracted significant local and national attention, including comments in opposition to the POP from around the country. The proposal and its foreseeable adverse environmental impacts are controversial and contested. While the applicant claims that the environmental effects will be *de minimis*, this comment letter contains factual information which demonstrates that significant adverse environmental impacts and risks to the Preserve will result from the current POP. To the knowledge of the undersigned organizations, this is the largest ever geophysical survey proposed in the Preserve<sup>53</sup> and would be the first case of off-road vibroseis operations ever undertaken in the state of Florida. Additionally, in the event the proposed survey successfully identifies oil and gas resources that the applicant believes could be economically exploited in the Preserve, this will almost certainly lead to additional seismic exploration activities and significant drilling and production operations within the Preserve. When the proposed operation is combined with the proposed 103,000-acre seismic survey proposed by Tocala LLC, to the north of the Preserve, the cumulative impacts on the landscape and hydrology of the area would be far more significant than either of the proposed projects, individually. Finally, as discussed at length in section V, the proposed project could have adverse effects on a number of federally-listed threatened and endangered species, including the Florida panther, one of the most endangered mammals in the country. It is therefore clear that the completion of an EIS is required in advance of the proposed project.

To comply with NEPA, an EIS must provide both a “full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R. § 1502.1. As the Supreme Court has noted, “[i]mplicit in NEPA’s demand that an agency prepare a detailed statement on ‘any adverse environmental effects which cannot be avoided should the proposal be implemented,’ is an understanding that the EIS will discuss the extent to which adverse effects can be avoided.”<sup>54</sup> As a part of the NEPA process, the NPS must consider alternatives that would mitigate impacts to the Preserve, the

<sup>49</sup> Burnett Plan of Operations, *supra* note 3, at 150.

<sup>50</sup> BCNP General Management Plan, *supra* note 1, at 15.

<sup>51</sup> National Park Service, Red Mangrove, <http://www.nps.gov/bicy/learn/nature/red-mangrove.htm> (last visited Aug. 12, 2015).

<sup>52</sup> BCNP General Management Plan, *supra* note 1, at 156.

<sup>53</sup> While the applicant states that a previous survey area was “far larger,” (Burnett Plan of Operations, *supra* note 3, at 8) the applicant also states that all previous seismic surveys resulted in a *total* of 474 miles of seismic lines, whereas our calculations indicate that this survey will result in over 1,000 miles of seismic lines – more than double all previous surveys listed by the applicant put together. *See supra* note 4.

<sup>54</sup> *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351-52 (1989) (citing 42 U.S.C. § 4332(C)(ii)).

species that utilize and inhabit it, recreational activities, and other environmental values. This alternatives analysis represents a venue for the NPS to thoroughly consider “technologically feasible methods least damaging to the federally-owned or controlled lands, waters and resources of the unit.” Various substantive issues must be also addressed in the NEPA alternatives analysis, including “phased reclamation and bonding at a level commensurate with the level of operations approved.” 36 C.F.R. § 9.30.

b. *NEPA requires a consideration of direct, indirect, and cumulative impacts from the proposed operations*

NEPA requires an evaluation of the direct, indirect, and cumulative environmental consequences of a major federal action. 40 C.F.R. §§ 1502.16, 1508.7. In evaluating the environmental consequences of a proposed action, the agency “must give a realistic evaluation of the total impacts and cannot isolate a proposed action, viewing it in a vacuum.” *Grand Canyon Trust v. Federal Aviation Administration*, 290 F.3d 339, 342 (D.C. Cir. 2002).

Direct effects “are caused by the action and occur at the same time and place.” *Id.* at § 1508.8(a). These include the physical depressions in the soil created by vibroseis vehicles. Indirect effects “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* at § 1508.8(b). For instance, increases in roadkills of wildlife, such as the Florida panther, resulting from increased vehicular traffic, or changes in vegetation communities as a result of vegetation removal would be considered indirect impacts. Cumulative impacts are those “which result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” *Id.* This includes expanded oil drilling projects within the Preserve that are expected to result from the proposed seismic survey, and large landscape level impacts across the Nobles Grade project and the adjacent Tocala project. To comply with NEPA, an EIS must fully consider each of these categories of impacts, as well as reasonable alternatives to minimize or eliminate the identified impacts.

In the sections below, we highlight a few of the adverse impacts that will most likely result from the proposed POP, that raise heightened concerns, and that have not been adequately addressed by the applicant in the proposed POP. Concerns related to endangered species are discussed separately in Section V. However, the discussion is meant only to highlight certain issues and is not intended to serve as an inclusive list of areas that must be addressed by an EIS. There are many other types of impacts which raise significant concerns and must be fully understood and analyzed before any approval of the proposed project could occur.

i. *Direct and indirect impacts from vehicles used in proposed survey operations*

The POP downplays the impacts that the vibroseis vehicles will cause, as they crisscross the Preserve, beginning by referring to the 61,700 pound heavy trucks that will undertake these operations as “buggies.”<sup>55</sup> However, these heavy industrial vehicles have the potential to cause significant changes to

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<sup>55</sup> See Burnett Plan of Operations, *supra* note 3, Exhibit 8 (Field Testing of Vibroseis Buggy), Exhibit B (Vibroseis Buggy Specifications) at page 5 (specification sheet with heading “AHV4-PLS 362 Vibrator Buggy W/Frame Rollover Protection”).

local hydrology.<sup>56</sup> For instance, the use of these heavy vehicles within the Preserve could crack or fracture shallow limestone formations, which in turn could lead to sinkhole formation or the drainage of perched hydrologic environments.<sup>57</sup> Given the very flat topography of south Florida, even minor disruptions in surface elevation can permanently alter hydrology.<sup>58</sup> This in turn may have far reaching adverse environmental impacts as the Preserve's hydrology maintains hydroperiod regimes for wetlands and serves as an important potable water source for the Big Cypress Basin.<sup>59</sup>

Vehicles used in the proposed operations are also likely to cause soil compaction and rutting. These impacts, in turn, can cause "soil loss or reduced productivity" and can "influence the hydrological, vegetative, and wildlife conditions of the preserve."<sup>60</sup> The Preserve's Off-Road Vehicle Management Plan notes that:

*The persistence of disturbed soils suggests that ORV impacts are occurring at a faster rate than soils are naturally recovering, and that impacts are accumulating over time. There are no known processes that restore the soils once disturbed. Farm field furrows that existed prior to the preserve's establishment are still clearly visible from the air and on the ground decades later. Soil impacts from ORVs appear to be having similar persistence over time, with associated hydrological and biological impacts.*<sup>61</sup>

These long-term, cumulative impacts to the Preserve must be assessed.

The applicant's "field testing" of the impacts of vibroseis trucks provides little useful information. The applicant states that "[v]ibrations perceived between 250 and 300 feet from the buggy during the vibration period *seemed to be* substantially less pronounced. This implicated that buggy induced vibrations should be nearly, if not fully, attenuated at a distance of approximately 600 feet."<sup>62</sup> The applicant then goes on to rely on this wholly unsupported assumption throughout the POP. While the POP notes that the vibroseis vehicles will travel in groups of three,<sup>63</sup> the field testing appears to have tested the impacts of a single pass of only one vehicle.<sup>64</sup> Moreover, the field testing appears to have been conducted under near-ideal conditions. Despite this, impacts were clearly visible from the single pass of the truck in the wetland habitat six months after it occurred. The passage of three trucks along the same corridor would almost certainly cause far more significant impacts. Additionally, the follow-up visit included only visual

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<sup>56</sup> See Noah Kugler, Opinion and Recommendation: Nobles Grade 3-D Seismic Survey Application (May 16, 2014) at 2 [cited hereinafter as Kugler Opinion] (noting that survey activities could "lead to permanent disruption, alteration and degradation of the shallow hydrology" in the area). The Kugler Opinion is attached as an appendix to the December 2014 Conservation Group Letter to FWS, *supra* note 5, and available at Exhibit 1.

<sup>57</sup> See *Id.*

<sup>58</sup> See *Id.*

<sup>59</sup> Letter of Ananta Nath to Timothy Schwan, Florida Department of Environmental Protection re: Application for 3-D Seismic Survey for Geophysical Exploration at Nobles Grade, Big Cypress National Preserve (May 16, 2014), attached as Exhibit 2.

<sup>60</sup> See National Park Service, Big Cypress National Preserve-Addition Final General Management Plan/Wilderness Study/Off-Road Vehicle Management Plan/Environmental Impact Statement (Oct. 2010) [cited hereinafter as Big Cypress ORV Management Plan] at 4, 19.

<sup>61</sup> *Id.* at 4.

<sup>62</sup> Burnett Plan of Operations, *supra* note 3, Exhibit 8 (Field Testing of Vibroseis Buggy), at 5 (emphasis added).

<sup>63</sup> Burnett Plan of Operations, *supra* note 3, at 77.

<sup>64</sup> *Id.*, Exhibit 8 (Field Testing of Vibroseis Buggy), at 1 (referring to "[t]he Vibroseis Buggy used for the field test"), *Id.* Exhibit 8 (Field Testing of Vibroseis Buggy), at 3 (stating that "field testing of the Vibroseis Buggy employed a 'one pass' design").

observation and photographs of the site's condition. At no time does the applicant indicate that a geologist or hydrologist performed an evaluation of the impacts of the vehicle testing. In addition to the visual impacts documented, impacts to soil conditions or hydrology could have occurred in both the wetland and upland habitat, but were not evaluated.

Another indirect impact of the proposed off-road survey activities is the creation of unauthorized off-road vehicle ("ORV") routes. The POP states that "although the 1992 GMP for the original Preserve states that many of the seismic lines from 1970 – 1977 were still visible on 1984 high altitude infrared aerial photographs, the GMP acknowledged that it was because these areas had subsequently been reused as ORV trails."<sup>65</sup> As noted above, even a single pass of a vibroseis truck in a wetland resulted in the creation of a visible trail for at least six months, and there is no reason to think that the visible tracks of these and other vehicles used by the operators in the Preserve might not similarly attract use by ORV users. The creation of ORV routes has the potential to significantly impact the character of the Preserve, especially since the proposed Nobles Grade 3-D survey area is largely free of ORV routes and is one of the few areas of the Preserve for which this is the case.<sup>66</sup> The creation of unauthorized ORV routes is a documented risk in the Preserve and must be evaluated, along with alternatives that would lessen the likelihood of their creation.

*ii. Impacts from introduction of invasive plant species*

Another serious concern that must be analyzed in an EIS is the potential for the introduction of invasive plant species into areas of the Preserve not previously affected. Of particular concern in this context are Brazilian Pepper (*schinus terebinthifolius*),<sup>67</sup> and old world climbing fern (*Lygodium microphyllum*).<sup>68</sup> The Preserve's Off-Road Vehicle Management Plan states that "[t]here are indications that ORVs have resulted in the spread of invasive plants," including Brazilian pepper, cattail, and old world climbing fern within the Preserve.<sup>69</sup> The ORV Management Plan also notes that "ORVs can collect seed in their tire tread and beds and distribute it in currently unaffected areas of the preserve as they travel (Pernas 1999)."<sup>70</sup> Such findings would also apply to the use of vibroseis vehicles in the parts of the Preserve included in the POP, and must be analyzed in this context. Despite significant efforts, the NPS has been unable to control the spread of invasive plant species within the Preserve thus far. The spread of invasive plant species can cause permanent changes to the Preserve biota and must be fully evaluated in an EIS, along with alternatives to reduce these impacts.

*iii. Impacts to areas eligible to be designated as wilderness*

The NPS recently completed a wilderness eligibility assessment for the Big Cypress to identify lands which are eligible to be preserved as wilderness.<sup>71</sup> A wilderness study of the Addition lands was previously completed in 2010.<sup>72</sup> A significant portion of the proposed survey area falls within lands

<sup>65</sup> Burnett Plan of Operations, *supra* note 3, at 8.

<sup>66</sup> National Park Service, Official Map & Guide to Big Cypress, Side B, *available at* [http://www.nps.gov/bicy/planyourvisit/upload/BICY-S2\\_final.pdf](http://www.nps.gov/bicy/planyourvisit/upload/BICY-S2_final.pdf).

<sup>67</sup> University of Florida Center for Aquatic and Invasive Plants, Brazilian pepper-tree, <http://plants.ifas.ufl.edu/node/405> (last visited Aug. 12, 2015).

<sup>68</sup> University of Florida Center for Aquatic and Invasive Plants, Old World climbing fern, <http://plants.ifas.ufl.edu/node/255> (last visited Aug. 12, 2015).

<sup>69</sup> Big Cypress ORV Management Plan, *supra* note 60, at 40.

<sup>70</sup> *Id.*

<sup>71</sup> See National Park Service, Big Cypress National Preserve Wilderness Eligibility Assessment (Jan. 2015).

<sup>72</sup> See National Park Service, Big Cypress National Preserve-Addition Final General Management Plan/Wilderness Study/Off-Road Vehicle Management Plan/Environmental Impact Statement (Oct. 2010).

identified as eligible for wilderness designation.<sup>73</sup> The NPS must fully evaluate, in an EIS, the impacts that proposed survey activities could have on wilderness eligibility of lands within the Preserve. NEPA requires that agencies evaluate an action's effects on wilderness characteristics themselves, and whether activities may jeopardize a future wilderness designation. *See, e.g., Smith v. U.S. Forest Serv.*, 33 F.3d 1072, 1078 (9th Cir. 1994) (holding that the Forest Service was required to analyze an alternative which would have "preserve[d] the possibility that the area might some day be designated as wilderness"); *Oregon Natural Desert Ass'n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1115 (9th Cir. 2010) (holding that regardless of whether other laws required an agency to assess wilderness character or manage lands for wilderness values, NEPA required the assessment of impacts on the landscape's wilderness characteristics); *see also Wilderness Watch et al. v. Mainella*, 375 F.3d 1085, 1094 (11th Cir. 2004) (holding that the NPS' failure to address the impacts of an action on wilderness was a violation of NEPA).

*c. The NPS should hold public meetings regarding the proposed plan of operations*

Under NEPA, each agency shall "[m]ake diligent efforts to involve the public" in its processes for evaluating the environmental impact of a proposed action. 40 C.F.R. § 1506.6. In determining when public meetings are appropriate, agencies are directed to consider whether there is "[s]ubstantial environmental controversy concerning the proposed action or substantial interest in holding the hearing." *Id.* In this case, both of these factors weigh in favor of holding meetings during which the public can solicit information and provide input on the proposed POP.

**V. NPS must re-engage in formal consultation with the United States Fish and Wildlife Service to fully evaluate all potential impacts to wildlife.**

As noted in section I, the Conservancy of Southwest Florida, Center for Biological Diversity, Earthworks, National Parks Conservation Association, Natural Resources Defense Council, Sierra Club, and South Florida Wildlands Association sent a comment letter to the U.S. Fish and Wildlife Service on December 22, 2014.<sup>74</sup> In our letter, we expressed concerns that the Burnett seismic project would be likely to adversely affect species protected under the Endangered Species Act.

We stated that in order to fully determine the effect of the proposed project on listed species, that the FWS needs to obtain species surveys from the applicant prior to conclusion of Section 7 consultation. These surveys are needed to adequately provide consultation on the proposed project. An understanding of the proposed technology being utilized to conduct the seismic surveys is also critical, including an understanding of the distance at which vibrations and noise from the proposed seismic surveying activities could be felt and heard by wildlife, which is necessary to adequately assess any indirect impacts from disturbance.

In addition to an evaluation of the direct and disturbance-related indirect effects of the proposed POP to wildlife, we asked the FWS to also consider indirect effects of the proposed POP, such as roadkills due to increased traffic, and the effects on listed species' habitats and essential behaviors from impacts to hydrology and vegetation. In regard to the latter, we provided the FWS with a report from H2O Solutions, LLC that identified serious concerns regarding potential hydrogeological damage from the proposed activity.<sup>75</sup>

<sup>73</sup> *See* Burnett Plan of Operations, *supra* note 3, at 231; Big Cypress National Preserve Wilderness Eligibility Assessment, *supra* note 71, at 8.

<sup>74</sup> December 2014 Conservation Group Letter to FWS, *supra* note 5.

<sup>75</sup> Kugler Opinion, *supra* note 56.

We also requested that future and cumulative effects of the proposed POP be fully considered, including the effects of the neighboring Tocala seismic survey – which was also not fully evaluated during its consultation process with the FWS– as well as the future reasonably foreseeable drilling projects that would result from the seismic survey. Unfortunately, none of these concerns seem to be addressed or even considered in the FWS’s coordination and concurrence letter.<sup>76</sup>

*a. Relying on Surveying Measures During the Operation Does Not Meet the Intent of the ESA*

The FWS appears to rely on promises and assumptions made by the applicant that key nesting and denning areas will be avoided if they are documented once the proposed project is underway. The concurrence letter states that daily scouting to identify potential sensitive resources will be performed.<sup>77</sup>

Both for this proposed project and the similar nearby Tocala seismic survey, the Conservancy of Southwest Florida has requested that the FWS require wildlife surveying in advance of initiation of the projects. The information these surveys would provide is needed during consultation to evaluate the impacts of the proposed project and to establish avoidance buffers and polygons more thoroughly before any project-related activities commence on the landscape. Daily scouting of areas would likely still be required during project operations. However, having the wildlife survey information before the project is authorized and begins is necessary – not only to avoid human intrusion into sensitive areas (which is particularly important for species with large buffer areas where the buffers may already be violated by nearby operations by the time a daily survey identifies their existence), but also so that the FWS can properly determine in advance of project commencement whether a “take” is likely to occur as a result of the proposed project. Additionally, the information is necessary for FWS to assess whether the applicant’s avoidance and minimization measures have reduced the adverse effects to wildlife and associated habitat in advance of project commencement. Unfortunately, it appears that the FWS failed to require this critical measure for both the Burnett and Tocala seismic surveys.

*b. Wood stork impacts*

The FWS concurrence letter assumes that wetland impacts will be only temporary and minimal and concludes that the proposed project “may affect, but is not likely to adversely affect the wood stork”. The FWS does not conduct an assessment on how wetland hydroperiods may be impacted by the proposed project. Wood storks follow quality foraging habitat as these lands dry out.<sup>78</sup> Locations of these high quality areas may not be predictable from year to year, given changes in rainfall locations. Although conducting activities during drier conditions provides greater protection of vegetation and is therefore, a preferable time of year to conduct activities, should they be permitted, it also may expose wood storks to disturbance during important foraging times. These impacts do not appear to have been considered by the FWS.

The FWS assumes that activities within 0.47 mile of an active wood stork colony site ‘may affect’ the wood stork.<sup>79</sup> Without up-to-date survey data to determine if undocumented colonies exist within the

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<sup>76</sup> Letter of U.S. Fish and Wildlife Service to Big Cypress National Preserve re: Burnett Oil Co. Inc., Nobles Grade 3-D Seismic Survey (Feb. 25, 2015) [cited hereinafter as FWS Concurrence Letter].

<sup>77</sup> *Id.* at 3-8.

<sup>78</sup> U.S. Fish & Wildlife Service, South Florida Programmatic Concurrence for Wood Stork (May 18, 2010) at 2.

<sup>79</sup> *Id.* at 3.

proposed project's footprint, FWS cannot conclude that the proposed project "may affect, but is not likely to adversely affect" the wood stork.

The information that does exist raises serious questions about the impact that the proposed project may have on the wood stork. The proposed project is within the wood stork's Suitable Foraging Habitat ("SFH"), is about one mile away from a known colony site, within the Core Foraging Area ("CFA") of the colony site, and will impact SFH at a scale larger than a ½ acre. The FWS should have required avoidance and minimization to the extent practicable (which as we describe above, has not been achieved), and required compensation for avoidance impacts.<sup>80</sup> Compensation should have been sought to replace any lost foraging value of those wetlands due to project implementation, even if impacts are found to be temporary in nature.

Further, a 328 foot buffer is proposed to be maintained between active wood stork colonies and the survey activities,<sup>81</sup> but the FWS concurrence letter makes no mention of the required buffers for foraging wood storks. Those buffers are 300 feet if screening vegetation is present and 750 feet if no such screen is available.<sup>82</sup> The impacts to the wood stork must be adequately evaluated in an EIS, and as discussed further in section V(h), the NPS must reinitiate consultation with FWS in order to fully comply with the ESA.

### c. *Red-cockaded woodpecker impacts*

Although the applicant states that there are no red-cockaded woodpecker clusters within the revised survey area<sup>83</sup>, federally endangered RCWs have been documented utilizing areas in and around the proposed Nobles Grade seismic project area.<sup>84</sup>

RCWs rely on foraging habitat within 0.5 mile from their nesting sites.<sup>85</sup> Disturbance of foraging RCWs and potential abandonment of active nests is extremely difficult to predict, and RCW sensitivity to novel sounds, such as those generated by vibroseis buggies, poses risks, including to nesting activities and feeding of RCW young.<sup>86</sup>

The Big Cypress's population of RCWs is considered an essential support population for the Florida recovery unit.<sup>87</sup> It is therefore clear that the FWS's consideration of the likelihood of adverse effects to RCWs is inadequate. Not only should surveying have been conducted prior to conclusion of consultation, but avoidance polygons should have established a minimum 0.5 mile buffer for active or inactive cavity trees/cluster areas, with a 0.75 mile buffer for helicopter activities. According to the FWS concurrence letter, only a 200 foot buffer will be utilized.<sup>88</sup> This distance is insufficient to protect the essential behaviors of RCWs. Further, the FWS assumes that as low fliers, RCWs will not be directly taken by

<sup>80</sup> *Id.* at 4.

<sup>81</sup> FWS Concurrence Letter, *supra* note 76, at 5.

<sup>82</sup> U.S. Fish & Wildlife Service, Habitat Management Guidelines for the Wood Stork in the Southeast Region (Jan. 1990) at B-6, available at [http://www.fws.gov/northflorida/woodstorks/Documents/19900100\\_gd\\_Wood-stork-habitat-guidelines-1990.pdf](http://www.fws.gov/northflorida/woodstorks/Documents/19900100_gd_Wood-stork-habitat-guidelines-1990.pdf).

<sup>83</sup> Burnett Plan of Operations, *supra* note 3, at section 16-17.

<sup>84</sup> December 2014 Conservation Group Letter to FWS, *supra* note 5, at Exhibit 3 (map based on Red Cockaded Woodpecker geospatial data from Florida Fish & Wildlife Conservation Commission).

<sup>85</sup> U.S. Fish & Wildlife Service, Recovery Plan for the Red Cockaded Woodpecker, Revised (2003) at 189 available at [http://www.fwspubs.org/doi/suppl/10.3996/082012-JFWM-069/suppl\\_file/10.3996\\_082012-jfwm-069.s6.pdf](http://www.fwspubs.org/doi/suppl/10.3996/082012-JFWM-069/suppl_file/10.3996_082012-jfwm-069.s6.pdf).

<sup>86</sup> *Id.* at 37.

<sup>87</sup> *Id.* at 136.

<sup>88</sup> FWS Concurrence Letter, *supra* note 76, at 5.

helicopter activities, however this does not account for potential indirect impacts due to disturbance. An EIS must include a full analysis of effects to the RCW, based on up-to-date scientific information and survey data, and Section 7 consultation with FWS must be reinitiated to ensure an accurate determination about adverse impacts to the RCW and its habitat.

*d. Florida panther impacts*

The FWS concluded in its concurrence letter that the proposed project is not likely to adversely affect the panther.<sup>89</sup> However, this is not appropriate; a review of the key should have resulted in a “may affect” determination.<sup>90</sup> Studies, including those conducted in the Preserve itself, have shown that concentrated human activity causes alterations in the panther’s normal behavior and use of habitat.<sup>91</sup> The applicant acknowledges in the POP that the proposed project will overlap with panther denning.<sup>92</sup> Furthermore, panther prey, such as white-tailed deer, may also be affected by human presence and loud activities, such as many of those proposed in the survey operations.

As a result, the FWS should have concluded that the proposed project may adversely affect the panther and engage in formal consultation. We are concerned that the measures provided by the applicant in the concurrence letter will not be adequate to protect denning activities by the Florida panther and do not consider other indirect effects to the panther and its prey. The foregoing impacts must be fully considered in an EIS, along with alternatives to mitigate impacts to the panther. Consultation with FWS must also be reinitiated to undertake an accurate assessment of the likely adverse impacts to the Florida panther and its habitat.

*e. Crested caracara and snail kite impacts*

For the crested caracara and snail kite, the FWS does not have direct knowledge of how many nests are located within the proposed project boundary, although it acknowledges that active caracara or snail kite nests could be present.<sup>93</sup>

Wildlife surveying of the property should be conducted, prior to project authorization, along with daily scouting, to ensure that the proposed project completely avoids the encroachment of any operations into the primary zone for crested caracara, or the buffer zone for snail kites.<sup>94</sup>

FWS only currently plans to require a 500 foot vertical buffer from helicopter activity to crested caracara and snail kite nests. FWS acknowledges that “caracaras are most sensitive to human disturbance during the nesting season between November and April... Unnecessary human entry and aircraft flyovers should be avoided within the primary zone and flyovers should be prohibited during this period.”<sup>95</sup> Given that this project is proposed to occur within nesting season, FWS should evaluate the indirect effects of project activities on the crested caracara and prohibit helicopters within the entirety of the primary zone. Further,

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<sup>89</sup> *Id.* at 6.

<sup>90</sup> U.S. Fish & Wildlife Service, Florida Panther Effect Determination Key (Feb. 19, 2007) available at <http://www.fws.gov/verobeach/MammalsPDFs/20070219LetterSFESotoCOEPantherKey.pdf>.

<sup>91</sup> U.S. Fish & Wildlife Service, Florida Panther Recovery Plan, Revised (Nov. 2008), at 33, available at <http://www.fws.gov/uploadedFiles/Panther%20Recovery%20Plan.pdf>.

<sup>92</sup> Burnett Plan of Operations, *supra* note 3, at 169, 171-72.

<sup>93</sup> FWS Concurrence Letter, *supra* note 76, at 4.

<sup>94</sup> U.S. Fish & Wildlife Service, Everglade Snail Kite Conservation Measures; U.S. Fish & Wildlife Service, Species Conservation Guidelines, South Florida, Audubon’s Crested Caracara (April 20, 2004).

<sup>95</sup> U.S. Fish & Wildlife Service, Species Conservation Guidelines South Florida, South Florida Ecological Services Office (April 2004).

the FWS should require full implementation of the crested caracara conservation measures,<sup>96</sup> including maintaining foraging habitat in the secondary zone (extending 4,920 feet from the nest).

The NPS must address the reasonably foreseeable impacts to the crested caracara and the snail kite in an EIS, and reinstate consultation with the FWS to undertake an accurate assessment of adverse impacts that the proposed project would cause.

*f. Eastern indigo snake impacts*

While the concurrence letter promises that the Standard Protection Measures for eastern indigo snakes will be utilized,<sup>97</sup> the FWS does not require the applicant to perform any surveying to identify gopher tortoise burrows, which are the underground refugia most frequently utilized by this species. Burrows of the gopher tortoise (a candidate species) have been documented within the proposed project boundary, yet the concurrence letter only requires that the eastern indigo snake be identified if encountered during scouting or the survey operations. The POP acknowledges that gopher tortoise burrows have been found in the Addition lands but states that the populations of indigo snakes and gopher tortoises within the proposed NG3-D survey area are both unknown.<sup>98</sup> The applicant concludes that there is a small indigo snake population because the proposed project area contains a few gopher tortoise burrows; even though no surveys have been conducted.<sup>99</sup> It is critical that the presence of gopher tortoise burrows (and other possible refugia for indigo snakes) is documented prior to completing consultation, as the weight and vibrations of machinery may collapse burrows, which may in turn cause a “taking” of indigo snakes under the ESA. A survey of gopher tortoise burrows and eastern indigo snake presence must be conducted and used as a basis for a full discussion of the impacts to the eastern indigo snake in an EIS and reinstated consultation with the FWS.

*g. Florida bonneted bat impacts*

The proposed Burnett seismic survey falls within the established Florida bonneted bat focal area, and therefore, the FWS should have determined that the project “may affect” the bat.<sup>100</sup> In further support of the “may affect” determination, the project is larger than 5 acres and includes potential roost sites and bat habitat types.

The FWS concluded that the proposed project is not likely to adversely affect the bat, in part due to the applicant’s use of daily scouting to observe bats or roost sites.<sup>101</sup> However, observation of roost sites may be unlikely during standard daily scouting activities; specialized survey techniques, including use of peepers, would be needed to determine presence<sup>102</sup> and the likelihood of impact to bonneted bats from the proposed project. The FWS is aware that bonneted bats have been observed within the Big Cypress.<sup>103</sup> However, the locations of specific bat roosting sites within the proposed project area appear to be unknown. Consultation should be reinstated and a full discussion of the impacts to the bonneted bat

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<sup>96</sup> *Id.*

<sup>97</sup> FWS Concurrence Letter, *supra* note 76, at 3.

<sup>98</sup> Burnett Plan of Operations, *supra* note 3, at 208.

<sup>99</sup> *Id.*

<sup>100</sup> U.S. Fish & Wildlife Service, Florida Bonneted Bat Guidelines (Dec. 2013) at 1.

<sup>101</sup> FWS Concurrence Letter, *supra* note 76, at 5-6.

<sup>102</sup> Tropical Environmental Consultants, LLC, Cavity Survey Florida Bonneted Bat Addendum to Environmental Inventory and Protected Species Survey Final Report (Prepared for American Farms, LLC and submitted to US Fish and Wildlife Service).

<sup>103</sup> U.S. Fish & Wildlife Service, Presentation by Larry Williams on Florida Bonneted Bat Locations (April 2, 2014).

included in an EIS after the collection of sufficient information to determine the actual likely adverse impacts to the bat.

*h. It is the responsibility of the agencies to reinitiate consultation*

The NPS and the FWS must fully evaluate the adverse effects of the proposed seismic survey operations on any listed species and acknowledge the strong evidence that such impacts are likely to occur. Unfortunately, the FWS appears to be willfully ignoring such impacts, reducing the NPS' determinations to that of "not likely to adversely affect" listed species when the FWS has previously acknowledged that seismic surveys are "among the most potentially disruptive and damaging type of oil and gas activity."<sup>104</sup>

We respectfully request that the NPS and FWS reinitiate consultation on the proposed Burnett seismic survey and revisit the faulty conclusions of the original concurrence letter in order to fully address the impacts to all of the aforementioned protected species.

It is important to note that the National Park Service has independent legal responsibilities under the ESA. As we believe that the FWS's letter of concurrence is inadequate and consultation has not been performed appropriately, the NPS should not rely on this letter in its consideration of the proposed project. NPS should instead seek to reinitiate consultation on the proposed project with the U.S. Fish and Wildlife Service.

**VI. *The NPS should not approve the plan until the updated 9B Rules and Big Cypress Preserve Mineral Management Plan are finalized.***

The Big Cypress is one of more than forty units of the National Park System in which at least some of the subsurface mineral rights are privately owned, and one of twelve units with active oil and gas operations inside its boundary. The National Park Service regulates "all activities" in the exercise of nonfederal oil and gas rights within national park units under its 9B Rules.<sup>105</sup>

There has been significant renewed interest in nonfederal oil and gas interests within national parks, facilitated primarily by technological advancements in drilling, which make mineral extraction operations in previously unreachable or expensive areas now potentially feasible. This has spurred the NPS to revisit and update its 9B Rules for the first time in decades. The NPS has itself noted that existing regulations do not "reflect current policies, legal requirements, and practices" for oil and gas exploration and drilling.<sup>106</sup>

In January of 2014, the NPS released a "pictorial overview" of the changes it is proposing for the updated 9B Rules, including some especially-relevant to Big Cypress.<sup>107</sup> Among the proposed changes include:

- Increasing the bonding cap. Currently NPS regulations only require a bond of \$200,000 per operator per NPS unit to insure against default on reclamation and cleanup responsibilities, far

<sup>104</sup> U.S. Fish & Wildlife Service, Oil and Gas Exploration and Production, <http://www.fws.gov/refuges/oil-and-gas/exploration.html> (last visited Aug. 12, 2015).

<sup>105</sup> 36 C.F.R. § 9.30.

<sup>106</sup> National Park Service, 9B Rulemaking, [http://www.nature.nps.gov/geology/oil\\_and\\_gas/9b\\_index.cfm#prev\\_docs](http://www.nature.nps.gov/geology/oil_and_gas/9b_index.cfm#prev_docs) (last visited Aug. 13, 2015).

<sup>107</sup> National Park Service, The National Park Service 9B Oil & Gas Regulation Revision: A Pictorial Overview, [http://www.nature.nps.gov/geology/oil\\_and\\_gas/documents/2014-01-29%20Pictorial%20Overview%20of%20Proposed%20Non-Federal%20Oil%20and%20Gas%20Rulemaking.pdf](http://www.nature.nps.gov/geology/oil_and_gas/documents/2014-01-29%20Pictorial%20Overview%20of%20Proposed%20Non-Federal%20Oil%20and%20Gas%20Rulemaking.pdf) (last visited Aug. 13, 2015).

below typical current reclamation estimates of more than \$350,000 per well. Under current rules, a default on drilling reclamation within Big Cypress could leave taxpayers responsible for millions of dollars in clean-up costs.

- Fees for privileged access across NPS surface lands. The current outdated 9B Rules permit the NPS to charge a fee to operators using NPS-administered roads to reach their mineral rights, but offer no recompense for operators who use other federal lands for access. Access roads in the Big Cypress are specifically referenced in the documents supporting this update.

The Advanced Notice of Proposed Rulemaking for updates to the 9B Rules was published in 2009,<sup>108</sup> and a Notice of Intent to prepare an EIS was published in late 2010.<sup>109</sup> Updated 9B Rules are working their way through the administrative process, with draft rules due imminently. Because the National Park Service has admitted that current its rules are obsolete, and because of the vast impact in-development updates would have on ensuring that the NPS can fulfil its mission to protect the resources and visitor values at the Preserve, we urge the NPS to hold off on approving the proposed POP until new 9B Rules are finalized.

Additionally, the Preserve is operating under a Minerals Management Plan from 1991, which does not consider modern techniques for performing oil and gas exploration (including seismic testing through vibroseis), extraction, or clean-up activities. An approval of the proposed Plan of Operations under current management policies that did not anticipate the proposed technologies and their impacts to Preserve resources would be arbitrary. An updated MMP, including a Preserve-wide Oil & Gas Plan examining modern techniques, is needed before approval of modern oil and gas exploration and any drilling activities.

## ***VII. Conclusion***

We request that NPS require the applicant to provide a more complete POP which meets the requirements outlined in 36 C.F.R. § 9.36, and is consistent with the standards set forth in the 9B Rules, BCNP GMP/MMP and Addition Lands Agreement. This includes requiring an evaluation of all reclamation costs, and adequate evaluation of the proposed project's compliance with requirements for the area of influence on the Preserve and the Bear Island Stipulation. Further, the POP must not be approved until it is amended to ensure the proposed operations are consistent with provisions for Important Resource Areas, required buffer zones, and the use of technologically feasible methods least damaging to the Preserve.

Given the scale and intensity of the proposed project and its potential to adversely impact multiple federally listed species, NPS must prepare an Environmental Impact Statement. In doing so, the NPS must evaluate the cumulative, long-term effects of the proposed operations. The applicant originally proposed a much larger survey area and indicated in the POP that additional surveys may be pursued in the future. Furthermore, a 103,000 acre seismic survey is proposed by Tocala LLC to the north of the Preserve. When evaluating the Burnett proposal, the NPS must consider the cumulative impacts should both the Tocala and Burnett proposals be approved, and evaluate the possible impacts of additional surveys within the Preserve and the increased oil and gas activities that may result. NPS must also re-engage in formal consultation with the U.S. Fish and Wildlife Service in order to comply with the Endangered Species Act and to fully consider adverse effects to all federally-listed species.

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<sup>108</sup> 74 Fed. Reg. 61,596 (Nov. 25, 2009).

<sup>109</sup> 75 Fed. Reg. 82,362 (Dec. 30, 2010).

Finally, we strongly encourage the NPS to consider whether the Preserve has the necessary staffing and resources to adequately oversee expanded oil and gas exploration and development activities. Without increases in monitoring and enforcement resources, the seismic exploration currently being proposed—as well as the production that it would potentially facilitate—could result in significant environmental damage and a lack of operator accountability in the Preserve.

Thank you in advance for your consideration of our comments. Please feel free to contact us with any questions.

Sincerely,

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Larry Williams; State Supervisor, Florida, U.S. Fish and Wildlife Service  
Daryl Thomas, Biologist, U.S. Fish and Wildlife Service

## **Exhibit List**

1. Letter from Conservancy of Southwest Florida *et al.* to Larry Williams, State Supervisor, U.S. Fish & Wildlife Serv., with enclosures (Dec. 22, 2014). [20 pages]
2. Letter of Ananta Nath to Timothy Schwan, Florida Department of Environmental Protection re: Application for 3-D Seismic Survey for Geophysical Exploration at Nobles Grade, Big Cypress National Preserve (May 16, 2014). [2 pages]

# **EXHIBIT 1**



*Protecting Southwest Florida's unique natural environment and quality of life ... now and forever.*

**CENTER FOR BIOLOGICAL DIVERSITY—CONSERVANCY OF SOUTHWEST FLORIDA—EARTHWORKS  
NATIONAL PARKS CONSERVATION ASSOCIATION—NATURAL RESOURCES DEFENSE COUNCIL  
SIERRA CLUB—SOUTH FLORIDA WILDLANDS ASSOCIATION**

December 22, 2014

Larry Williams  
State Supervisor  
US Fish and Wildlife Service  
1339 20<sup>th</sup> St.  
Vero Beach, FL 32960

RE: Nobles Grade 3-D Seismic Survey

Dear Mr. Williams,

The undersigned organizations are dedicated to protecting environmentally sensitive lands—including federal public lands and wildlife habitat. We are writing on behalf of our members in Florida and nationwide to share our concerns regarding the proposed Nobles Grade 3-D seismic survey project within the Big Cypress National Preserve (BCNP), a unit of the National Park Service (NPS).

This large project is proposed for sensitive lands that serve as essential habitat for federally-listed species. Based on the best available scientific evidence, we believe the proposed project is likely to adversely affect species protected under the Endangered Species Act (ESA); therefore, the United States Fish and Wildlife Service (USFWS) is required to engage in formal consultation to investigate all potential adverse effects on wildlife and to comply with section 7 of the ESA, 16 U.S.C. § 1536. Such formal consultation should include:

- Conducting species surveys to determine which species are found in the project area;
- Determining the distance at which vibrations and noise from seismic surveying are felt by wildlife;
- Considering cumulative impacts from the Nobles Grade seismic survey and the neighboring Tocala seismic survey;
- Evaluating long-term effects on the landscape from surveying, such as changes to hydrology and habitat characteristics;
- Reviewing all possible impacts that may result from completion of the survey such as additional oil and gas development within the Preserve.

**Project Background:**

Burnett Oil Company has submitted a state permit application (Application G-169-14) to Florida's Department of Environmental Protection and a Plan of Operations (Project No. 13BOC2197) to the National Park Service (NPS) to perform geophysical exploration over four phases on a total of 234,510± acres, or approximately one-third, of BCNP. According to NPS, the applicant has since reduced this proposal to Phase I, which is 70,540± acres within the Big Cypress National Preserve and the Addition lands. This is still an enormous area. Based on

information provided to the state and NPS, the proposed source and receiver lines could total more than 1,500 miles of disturbance in the Preserve in Phase I alone.<sup>1</sup>

We believe an Environmental Impact Statement and formal consultation with USFWS should be conducted for any Plan of Operations submitted to NPS pursuant to the National Environmental Policy Act and Endangered Species Act. The scope and gravity of the impacts of the Burnett proposal will potentially cause significant impacts that will extend well beyond what can be analyzed in an Environmental Assessment.

The type of geophysical exploration proposed by Burnett will involve the use of vibroseis buggies or off-road vehicles which vibrate large plates against the ground to generate a seismic signal which is then measured to model local geology. Impacts from this activity can include removal of trees and other vegetation, surface and sheet flow disturbance from vehicles, cut lines that can extend up to fifty feet in width, equipment staging areas, and noise from vehicles, helicopters and generators. The USFWS has identified that seismic surveys can be impactful to natural resources, as stated on the agency's website:

*"Seismic surveys generally cover many square miles. Access roads may be constructed or existing roads upgraded to support exploration. The extensive nature of seismic surveys and access requirements make seismic exploration among the most potentially disruptive and damaging type of oil and gas activity."<sup>2</sup>*

We are concerned that the large-scale survey proposed by the Burnett Oil Company has the potential to significantly alter the sensitive ecosystems and habitats found in BCNP. Given the flat topography of the Everglades, even minor disruption to surface elevation due to rutting and soil compaction from vehicles may permanently alter hydrology. Furthermore, vibrations and vehicle traffic may crack or fracture shallow limestone strata leading to the drainage of perched hydrologic environments or sinkhole formation.<sup>3</sup> These impacts to hydrology may in turn alter the character of habitat areas, such as wetlands, that wildlife depends on. Additionally, noise from vibroseis buggies, destruction of wildlife burrows, clearing of vegetation, and increased traffic levels will likely also adversely affect wildlife.

The USFWS should carefully consider all direct and indirect impacts associated with seismic surveys. This includes reviewing the cumulative impacts of the 70,540± acre Nobles Grade 3-D seismic survey and the adjacent proposed 103,000± acre Tocaia 3-D seismic survey (Exhibit 1), and evaluating the impacts of future full field development in these areas as well as other reasonable foreseeable development since surveys often lead to additional oil and gas activities.

### **Wildlife Impacts:**

Burnett acknowledges in its original January 2014 Plan of Operations (table 10.3) that BCNP and the Addition lands are home to federally- protected species such as the wood stork

<sup>1</sup> Calculations based on the following information found in the Nobles Grade 3-D Seismic Survey, Application for Permit to Perform Geophysical Exploration, Permit No. G-169-14, page 3: "The initial survey design for NG3-D PHASE I consists of 64 source lines and 167 receiver lines oriented generally east/west and north/south, respectively. The 64 source lines are approximately 1,155 feet apart with source point station spacing of 82.5-foot intervals. The 167 receiver lines are approximately 495 feet apart with receiver point spacing of 165± feet."

<sup>2</sup> US Fish and Wildlife Service. (2014) . Oil and Gas Exploration and Production. Retrieved from: <http://www.fws.gov/refuges/oil-and-gas/exploration.html>

<sup>3</sup> Kugler, N. (2014). Opinion and Recommendation: Nobles Grade 3-D Seismic Survey Application. Letter to Jennifer Hecker, Conservancy of Southwest Florida. (See attached).

(*Mycteria Americana*), red-cockaded woodpecker (*Picoides borealis*), Florida panther (*Puma concolor coryi*), and eastern indigo snake (*Drymarchon corais couperi*).<sup>4</sup>

### Wood Stork

The BCNP is home to nearly 200 species of birds,<sup>5</sup> including several species that are protected as imperiled species at the state and federal level. This includes the wood stork, which is a federally threatened species. Protecting existing wading bird rookeries and wood stork colonies from the direct and indirect effects of seismic surveying should be a top consideration.

Wood storks and other wading birds have historically utilized habitat within the proposed Nobles Grade project area (Exhibit 2). Best available scientific evidence shows that foraging wetlands within 18.6 miles of a colony site are considered part of the wood stork's Core Foraging Area.<sup>6</sup> Wetland impacts on this area may reduce foraging opportunities for the wood stork and thus have an adverse effect on the species.<sup>7</sup>

As their foraging habitat dries out, wood storks travel to higher quality areas.<sup>8</sup> Locations of these high quality areas may not be predictable from year to year, given changes in rainfall.<sup>9</sup> Although conducting activities during drier conditions seems to provide greater protection of vegetation, and is a preferable time of year to conduct activities should they be permitted, it also may also expose wood storks to disturbance during important foraging times. These impacts should also be considered by the USFWS.

The BCNP is critical to wood storks in south Florida as it contains foraging habitats for five colonies, including one colony centrally located on BCNP.<sup>10</sup> Because these lands provide for this large number of wood storks, this project may have impacts felt not only at a colony level, but also at a population level.<sup>11</sup>

### Red-cockaded Woodpecker

The red-cockaded woodpecker (RCW) is a federally endangered species. Like the wood stork, it too has historically utilized areas within the proposed Nobles Grade seismic project (Exhibit 3). RCWs rely on foraging habitat within one half mile of their nesting sites.<sup>12</sup> Disturbance of foraging RCWs and potential abandonment of active nests is impossible to predict, and sensitivity to novel sounds such as those generated by vibroseis buggies is a potentially

<sup>4</sup> Burnett Oil Company Inc. (2014). Nobles Grade 3-D Seismic Survey Big Cypress National Preserve and Big Cypress National Preserve Addition Plan of Operations. Section 10 (p. 134)

<sup>5</sup> Big Cypress National Preserve. Birds. Last updated March 7, 2014. Accessed March 20, 2014. <<http://www.nps.gov/bicy/naturescience/birds.htm>>.

<sup>6</sup> US Fish and Wildlife Service, May 18, 2010 Letter to Army Corps of Engineers re: South Florida Programmatic Concurrence, Revised.

<sup>7</sup> *Ibid.*

<sup>8</sup> Davis, et al., 2010. Oil and Gas Impacts in the Big Cypress Ecosystem: An Analysis of Impacts Associated with Proposed Activities in the Nobles Grade Area.

<sup>9</sup> *Ibid.*

<sup>10</sup> As Nobles Grade area was defined in Davis, et al., 2010.

<sup>11</sup> Davis, et al., 2010. Oil and Gas Impacts in the Big Cypress Ecosystem: An Analysis of Impacts Associated with Proposed Activities in the Nobles Grade Area

<sup>12</sup> US Fish and Wildlife Service, 2003. Recovery Plan for the Red Cockaded Woodpecker, Revised.

significant adverse impact.<sup>13</sup> USFWS should pursue a thorough investigation of the direct and indirect impacts of this project on RCWs given the BCNP population's status as an essential support population for the Florida recovery unit.<sup>14</sup>

### Florida Panther

Although a wide-ranging species, disturbance is also a factor in assessing impacts to the endangered Florida panther, which utilizes habitat within the project area (Exhibit 4). Panthers have shown, in studies conducted in the Big Cypress National Preserve itself, alterations in their normal behavior and use of habitat areas due to concentrated human activity, which USFWS considers "harassment" due to the effects on ordinary biological functions or feeding, reproducing, and rearing young.<sup>15</sup> Furthermore, panther prey species, such as white-tailed deer, may also be affected by human presence and loud activities, which in turn will adversely affect panther foraging efficacy. USFWS should evaluate these impacts fully prior to issuing any decision on the project as the entire project boundary falls within primary panther habitat (Exhibit 5).

Florida Panthers are particularly vulnerable to any increases in traffic, such as those associated with industrial activity (Exhibit 6). According to the Florida Fish and Wildlife Conservation Commission, "Every individual is important for the panther's survival" and "Road kills are a leading cause of death for Florida panthers and black bears. Entire litters have died in vehicle collisions."<sup>16</sup> So far this year, 23 panthers have been killed by vehicles alone, an all-time road mortality record for the species. Therefore, the traffic impact is critical to thoroughly assess and properly address.<sup>17</sup>

### Eastern Indigo Snake and Other Burrowing Species

The eastern indigo snake is a federally threatened species. It is critical that the presence of burrowing species is considered in the review of this project as the weight of machinery and vibrations may collapse burrows.<sup>18</sup> The project should be reviewed in accordance with the USFWS Eastern Indigo Snake Effect Determination Key and all the best available science that demonstrates the snake's use of refugia such as holes, pipes, and gopher tortoise burrows.<sup>19</sup> Reliance solely on the Service's *Standard Protection Measures for the Eastern Indigo Snake* document is not sufficient to avoid such effects. Instead, a formal analysis of the project's direct, indirect, and cumulative effects is necessary to develop appropriate terms and conditions to adequately address threats to the snake.

<sup>13</sup> Davis, et al., 2010. Oil and Gas Impacts in the Big Cypress Ecosystem: An Analysis of Impacts Associated with Proposed Activities in the Nobles Grade Area

<sup>14</sup> US Fish and Wildlife Service, 2003. Recovery Plan for the Red Cockaded Woodpecker, Revised.

<sup>15</sup> US Fish and Wildlife Service, 2008. Florida Panther Recovery Plan, Revised.

<sup>16</sup> Florida Fish and Wildlife Conservation Commission, Fact Sheet: Safe roads for people and panthers," available at: [http://www.floridapanther.net.org/images/uploads/safe\\_roads\\_FINAL\\_w-ADA.pdf](http://www.floridapanther.net.org/images/uploads/safe_roads_FINAL_w-ADA.pdf).

<sup>17</sup> Florida Fish and Wildlife Conservation Commission, Panther Pulse, <http://www.floridapanther.net.org/index.php/pulse/#.VloAOn8o4dU>.

<sup>18</sup> Wilson, T. (2011). Effects of Seismic Exploration on Pygmy Rabbits. *Natural Resources and Environmental Issues* 17(7).

<sup>19</sup> US Fish and Wildlife Service, November 9, 2007 Letter to Army Corps of Engineers re: Eastern Indigo Snake and Wood Stork

## General Fish and Wildlife Resource Impacts

Disturbance to federally-protected wildlife that affects their normal behavior in foraging, nesting, or denning, could constitute or contribute to take under the Endangered Species Act. These could include potential long-term shifts in habitat use,<sup>20</sup> disturbance, or damage to nests/burrows.<sup>21</sup> Indirect impacts may also include increased wildlife deaths along roadways as a result of greater levels of vehicle traffic. All of these potential behavioral impacts need to be thoroughly reviewed and accounted for.

### **Conclusion:**

Improved oil and gas extraction and refining technologies have contributed to a renewed interest in oil and gas extraction in south Florida.<sup>22</sup> Oil and gas activities within BCNP are currently managed by the outdated 1991 Minerals Management Plan and 1998 Lands Exchange Act which the undersigned organizations have previously recommended be updated by NPS with formal ESA consultation with USFWS to better address the use of new oil exploration and extraction technologies.<sup>23</sup> In addition to revising this plan, current oil and gas proposals within BCNP should be carefully reviewed by the agencies.

It is critical that USFWS consider all direct and indirect impacts to listed species, including those summarized above. Wildlife surveys must be conducted to account for wildlife uses within the project area and to identify nesting, foraging, denning, or other high use areas. USFWS should also evaluate at what distance seismic activities can be felt or heard by wildlife and consider all impacts to habitat.

Seismic surveys will likely result in greater oil and gas activities within the preserve. The current Burnett proposal will cover 70,540± acres and cause more than 1,500 miles of disturbance from the laying of the source and receiver lines alone.<sup>[1]</sup> In the January 2014 Plan of Operations, the applicant expressed interest in conducting additional surveys beyond the 70,540± acre project. It is likely that following completion of the project, the applicant may wish to apply for additional surveys impacting even more of the Preserve or pursue oil and gas extraction activities. Both of these scenarios, future surveys and extraction, should be taken into account by USFWS when evaluating project impacts. Lastly, USFWS should consider the potential cumulative large scale impacts of the Nobles Grade survey, and the adjacent 103,000 acre Tocala seismic survey.”

The Nobles Grade 3-D seismic survey has the potential to adversely impact multiple federally listed species across a very large area. Consequently, USFWS is required to complete a

<sup>20</sup> Ashenhurst, A., Hannon, S. (2008). Effects of seismic lines on the abundance of breeding birds in the Kendall Island Bird Sanctuary, Northwest Territories, Canada. *Artic* 61(2) 190-198.

<sup>21</sup> Wilson, T. (2011). Effects of Seismic Exploration on Pygmy Rabbits. *Natural Resources and Environmental Issues* 17(7).

<sup>22</sup> Morgan, Curtis (2013 May 18). Oil Industry Eyes South Florida Again. Miami Herald. Retrieved from <http://www.miamiherald.com/news/local/in-depth/article1951665.html>

<sup>23</sup> Letter from conservation groups to Pedro Ramos, Superintendent, Big Cypress National Preserve, May 16, 2014 (See attached).

[1] Calculations based on the following information found in the Nobles Grade 3-D Seismic Survey, Application for Permit to Perform Geophysical Exploration, Permit No. G-169-14, page 3: “The initial survey design for NG3-D PHASE I consists of 64 source lines and 167 receiver lines oriented generally east/west and north/south, respectively. The 64 source lines are approximately 1,155 feet apart with source point station spacing of 82.5-foot intervals. The 167 receiver lines are approximately 495 feet apart with receiver point spacing of 165± feet.”

thorough review of this project through formal consultation to evaluate all impacts and in doing so; we respectfully request that the Service address all of our aforementioned concerns and recommendations.

Thank you for considering our input on this important matter and please do not hesitate to contact any of us to discuss further.

Sincerely,

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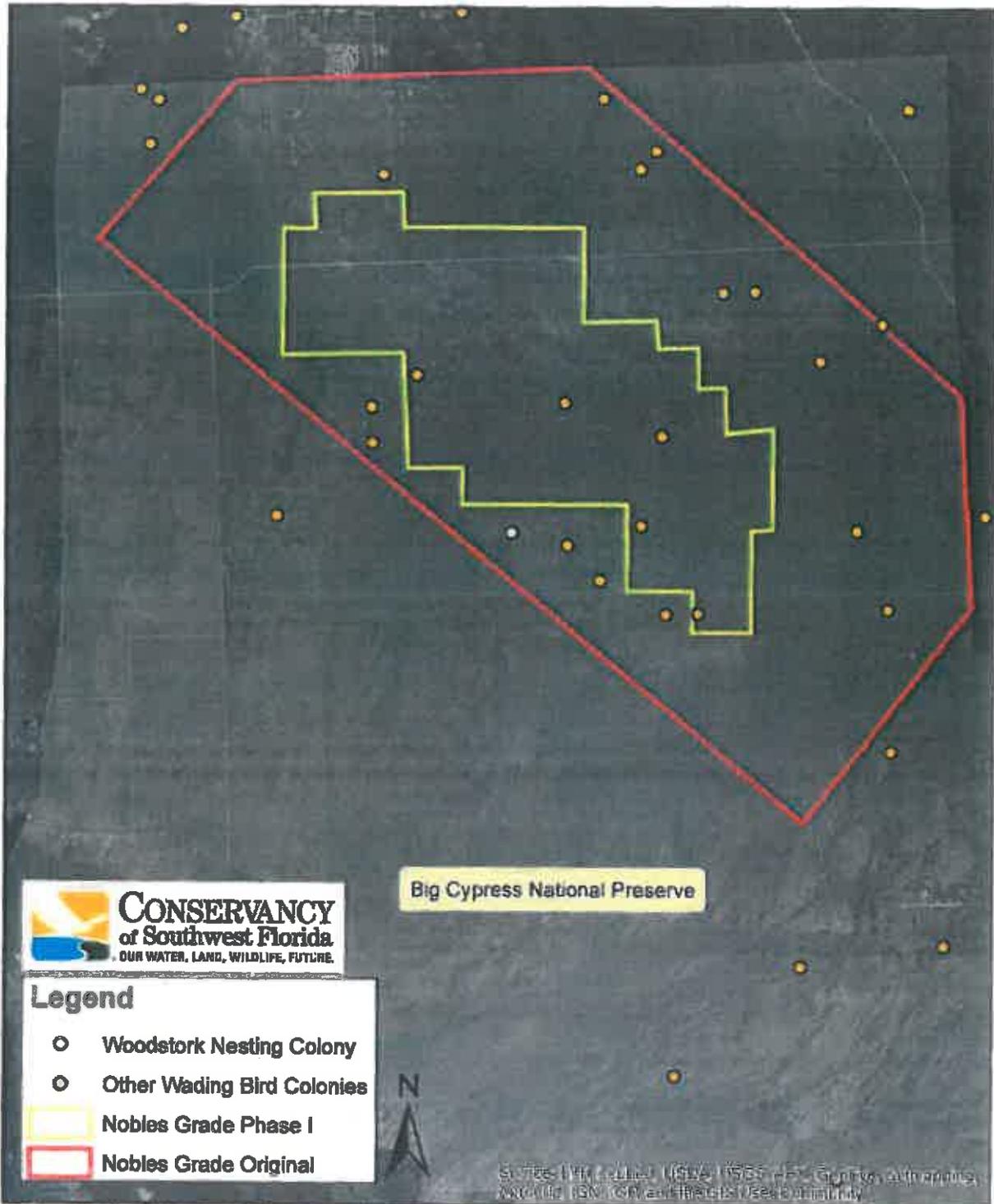
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Cc:

Jane Tutton; U.S. Fish and Wildlife Service  
 Pedro Ramos; National Park Service  
 Don Hargrove; National Park Service  
 Ron Clark; National Park Service



## Exhibit 2 Wading Birds



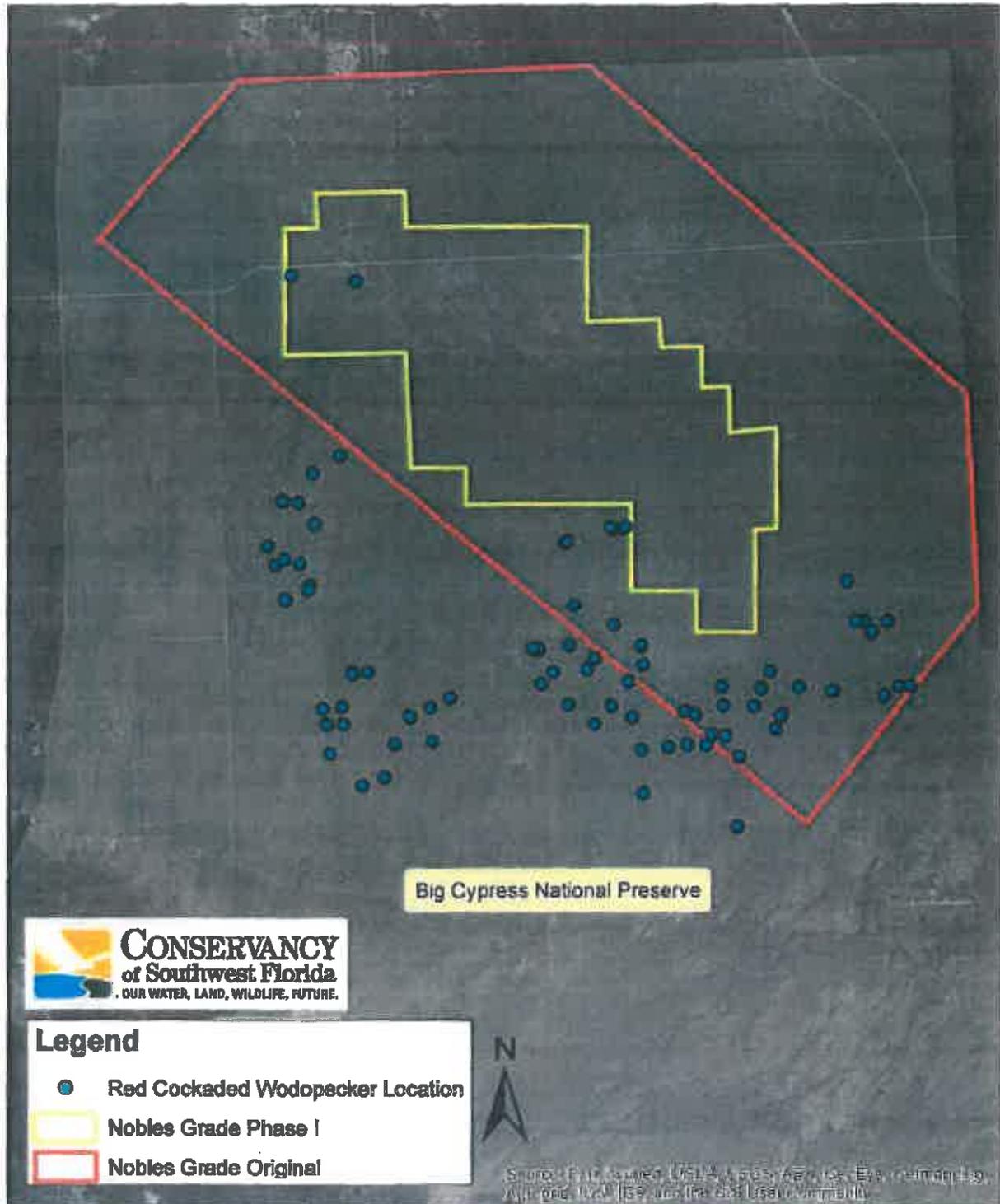
Nobles Grade Original and Phase I estimated from: 0      5      10  
 Plan of Operations January 2014 Miles

Big Cypress National Preserve Boundary from: Florida Natural Areas Inventory, 2014

Woodstork Nesting Colony from: US Fish and Wildlife Service, 1997-2006

Other Wading Bird Colonies from: Florida Fish and Wildlife Conservation Commission, 1999

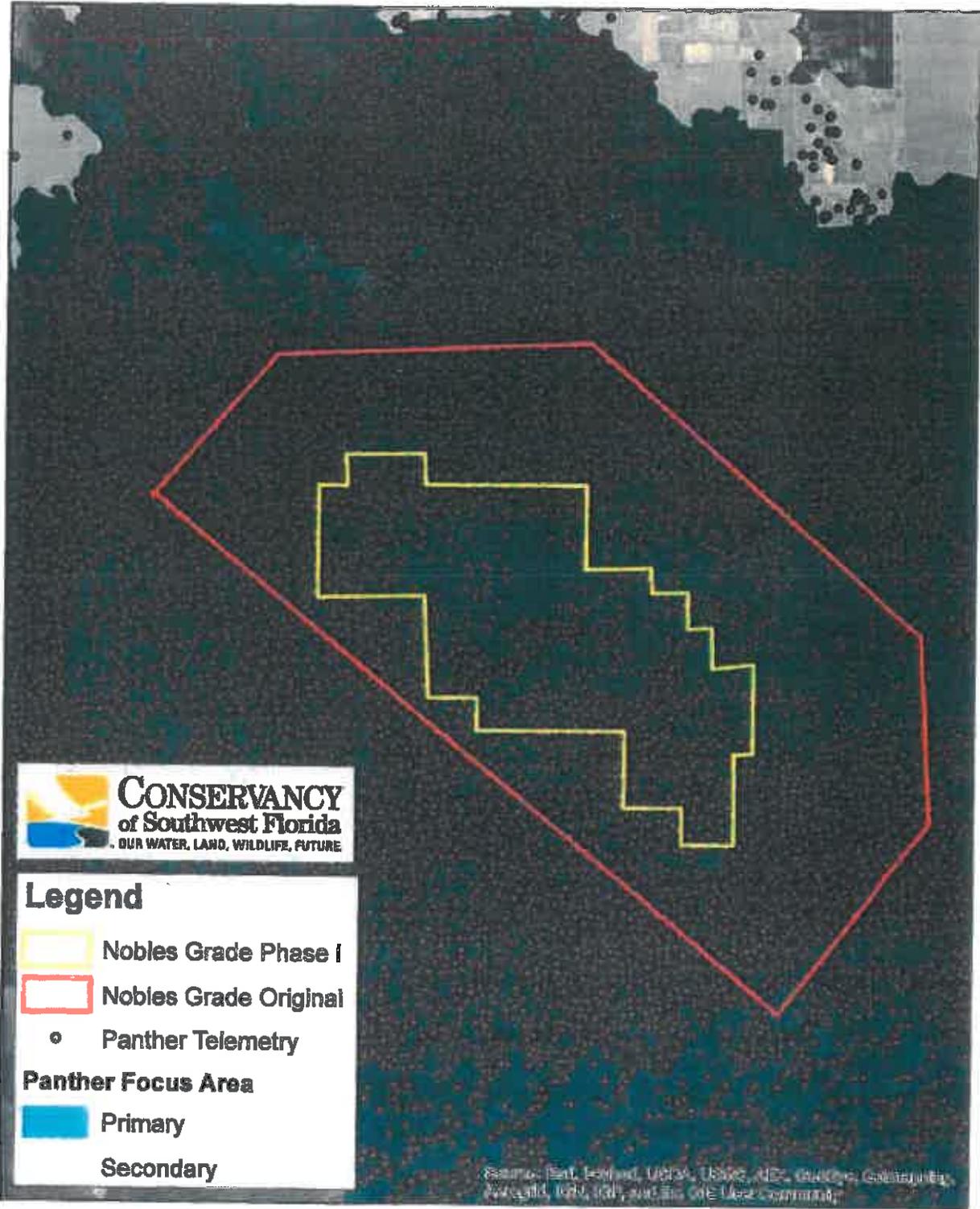
# Exhibit 3 Red Cockaded Woodpecker



Nobles Grade Original and Phase I estimated from:  
Plan of Operations January 2014

Big Cypress National Preserve Boundary from: Florida Natural Areas Inventory, 2014  
Red Cockaded Woodpecker from Florida Fish and Wildlife Conservation Commission, 2005

# Exhibit 4 Florida Panther



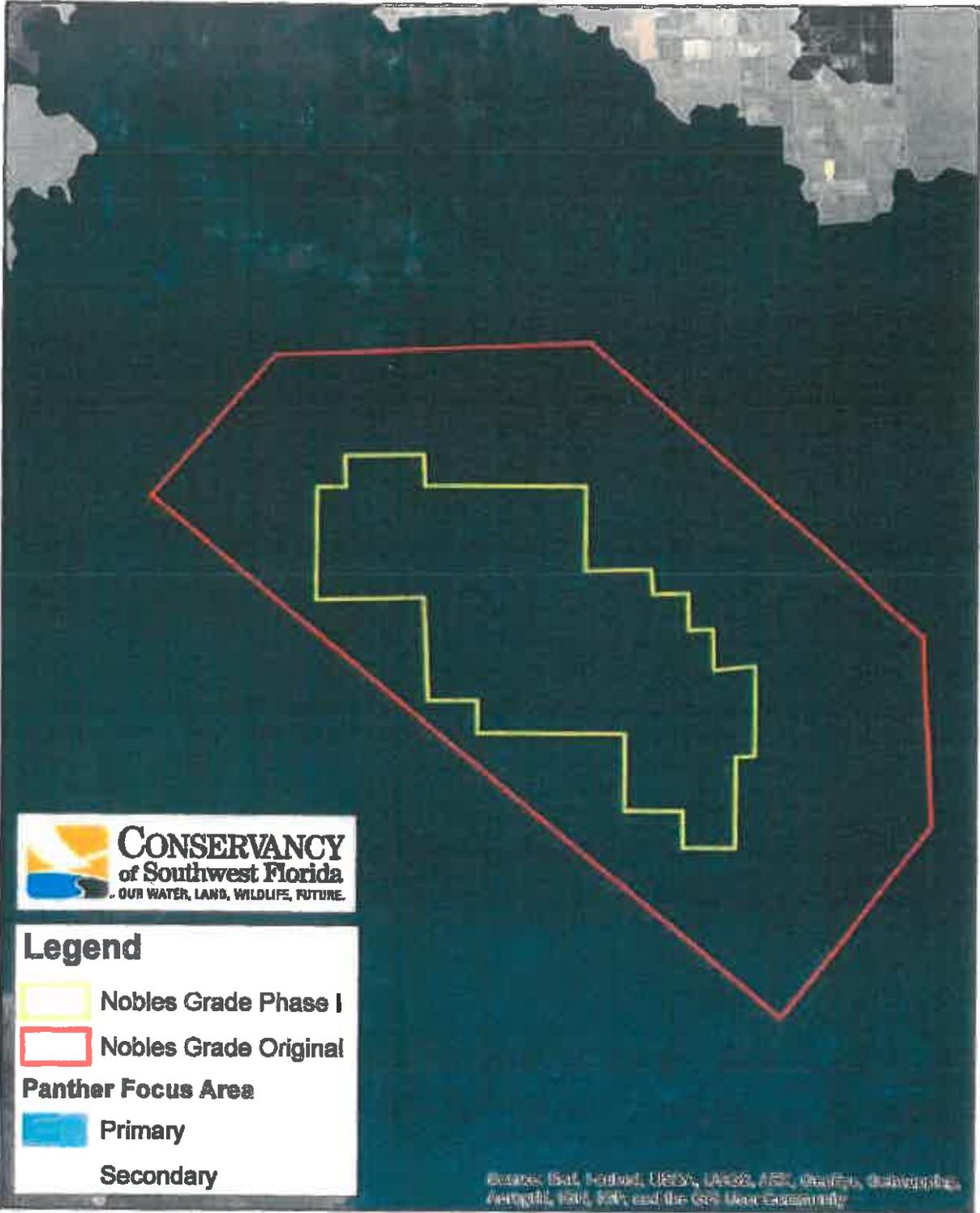
Nobles Grade and Phase I estimated from:  
Plan of Operations January 2014

Panther Focus Area from: US Fish and Wildlife Service 2006

Panther Telemetry from: Florida Fish and Wildlife Conservation Commission 1981-2013



# Exhibit 5 Florida Panther



Nobles Grade and Phase I estimated from:  
Plan of Operations January 2014

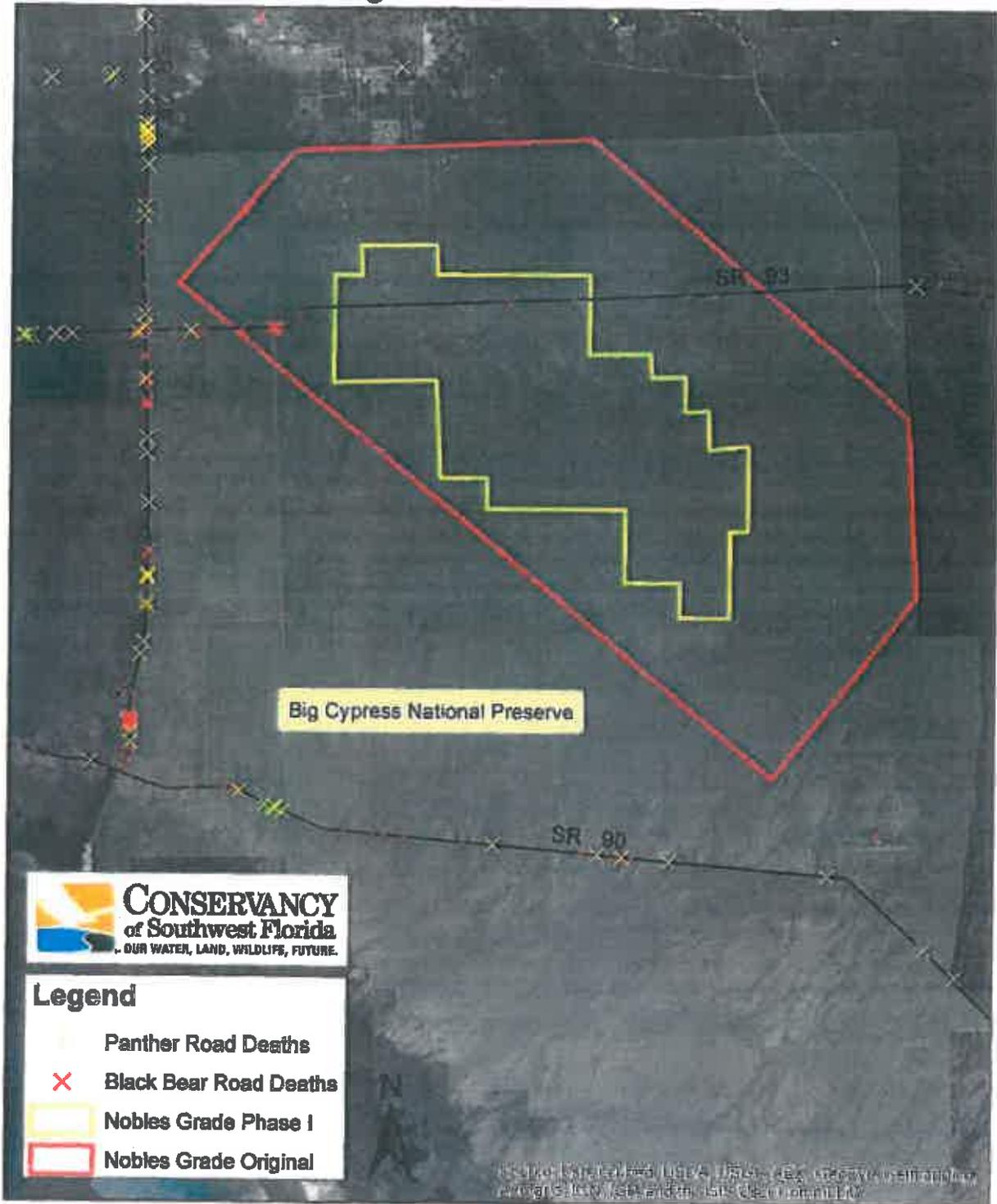
Panther Focus Area from: US Fish and Wildlife Service 2006

Panther Telemetry from: Florida Fish and Wildlife Conservation Commission 1981-2013

0 6 12 Miles



# Exhibit 6 Large Mammal Roadkill



Nobles Grade Original and Phase I estimated from:  
Plan of Operations January 2014

0                      6                      12  
Miles

Big Cypress National Preserve Boundary from: Florida Natural Areas Inventory, 2014

Florida Panther Road Deaths from: Florida Fish and Wildlife Conservation Commission 1972-2013

Black Bear Road Deaths from: Florida Fish and Wildlife Conservation Commission, 1976-2012

**Center for Biological Diversity – Conservancy of Southwest Florida – Earthworks  
National Parks Conservation Association – Natural Resources Defense Council  
Sierra Club – South Florida Wildlands Association**

May 16, 2014

Pedro Ramos  
Superintendent  
Big Cypress National Preserve  
33100 Tamiami Trail East  
Ochopee, Florida 34141

Dear Superintendent Ramos:

On behalf of the undersigned organizations, and our members in Florida and nationwide who are dedicated to protecting federal lands and national park sites, we write to express our concerns about the current status of oil and gas exploration, production, and clean-up activities in the Big Cypress National Preserve (BICY). In particular, our concerns include the lack of updated 36 C.F.R. 9(B) regulations, the lack of a consistent, up-to-date oil and gas management plan for oil and gas activities throughout BICY (a “Preserve-wide Oil & Gas Plan”) and Environmental Impact Statement (EIS) for same, and Burnett Oil Company, Inc.’s (Burnett’s) proposal for geophysical exploration in BICY, as described in its state permit application.<sup>1</sup>

National park sites are some of the most special places in America, and our organizations have a long history of working to protect and restore BICY, Everglades National Park (ENP), and the greater Everglades ecosystem. Our priorities include protecting and restoring water flows, wildlife habitat, and the natural abundance of flora and fauna in and around BICY.

Upon its establishment, BICY was envisioned as “a nationally significant ecological resource” and “a primitive area where ecological processes are restored and maintained.”<sup>2</sup> It was set aside to ensure the preservation, conservation, and protection of its natural scenic, floral, faunal, and recreational values, and for its importance as a watershed for Everglades National Park. It is home to many important species, including the endangered Florida panther—one of the most endangered mammals in the country—as well as the wood stork, red-cockaded woodpecker, Florida black bear, bobcat, manatee, and rare plants like the ghost orchid. It is also beloved for the many outdoor recreation opportunities it provides. At the same time, there are dozens of existing oil and gas sites, including producing oil wells, plugged wells, dry wells, injection wells, and other older wells of unknown status in BICY.<sup>3</sup> The future could bring even more oil and gas development to BICY.

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<sup>1</sup> Florida Department of Environmental Protection, Oil and Gas Program Application No. G-169-14 and Environmental Resource Permit Program Application No. 11-0323836-001.

<sup>2</sup> National Park Service, Big Cypress National Preserve, General Management Plan and Final Environmental Impact Statement, Volume I, 1991.

<sup>3</sup> Florida Department of Environmental Protection Oil and Gas Permit Database, Pre-permit Oil and Gas Wells Database, and OCULUS database.

## Impacts of Oil and Gas Activities

Every stage of oil and gas development, including exploration, construction, drilling, stimulation, processing, waste management, transportation of materials, ongoing production, plugging and abandonment, and site reclamation can have significant impacts on land, water, air, habitat, and other natural values. These impacts present significant threats to the many sensitive values in BICY, including: (a) wildlife mating, feeding, nesting, spawning, and migration routes, including those for threatened and endangered species; (b) watercourses, streams, wetlands, floodplains, water wells, springs, and other water sources; (c) archeological, historical and cultural resources; (d) opportunities for human recreation; (e) local economies dependent on fishing, recreation, tourism, and other social and economic values; (f) clean air and the airshed; (g) natural beauty, solitude, and visual resources; (h) soils, vegetation, and landscape; (i) the preservation of the natural soundscape of the Preserve; and (j) lands with wilderness characteristics.

It is critical to assess and document the specific impacts of any proposed oil and gas activities in BICY, since technologies, chemicals, equipment and infrastructure have changed and continue to change over time—just as the ecosystems and natural conditions in which they are applied change. Of particular concern in this regard are acidizing and acid fracturing, well stimulation practices involving dangerous acids and potentially other chemicals, including hydrochloric and hydrofluoric acids,<sup>4</sup> pumped at high pressures into a well. Records show that acidizing has taken place in the Preserve since the 1970s.<sup>5</sup> It is for these reasons that we are reaching out to you to express our concerns about the ongoing oil and gas activities in BICY.

## Present Oil and Gas Regulatory Scheme in BICY

Congress authorized BICY on October 11, 1974. The original boundary of BICY is presently governed by a General Management Plan, including a Minerals Management Plan (MMP) regulating Oil and Gas activities, and an EIS dating from 1991. Subsequently, the Big Cypress National Preserve Addition Act of 1988 expanded the Preserve by 147,000 acres (the Addition). The Addition is governed by a 2010 General Management Plan and EIS. The 2010 General Management Plan for the Addition states:

“Currently, oil and gas exploration in the Addition is managed in accordance with [the 1998 Lands Exchange Act]. A Preserve-wide oil and gas management plan is currently in preparation by the National Park Service. When completed, this plan will provide guidance for oil and gas exploration for the entire Preserve, including the Addition.”

In effect, oil and gas activities within the entirety of BICY are governed by the 1991 MMP, a plan that is more than 23 years old. That 1991 MMP requires NPS to follow a process outlined in 36 C.F.R. 9(B).

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<sup>4</sup> Hydrofluoric acid is extremely toxic and exposure to it can be life threatening. The hazards of hydrofluoric acid are unique among other inorganic acids because the fluoride ions penetrate quickly and deeply into the body. At low concentrations, such as those used in the oil and gas industry, the symptoms of exposure may be delayed by up to a day, meaning that extensive damage may be done before harm is detected.

<sup>5</sup> “Calumet Florida, Inc. Master Plan of Operations,” prepared by Calumet Florida, Inc. November 30, 1994.

### **Lack of Updated 36 C.F.R. 9(B) Regulations**

The Preserve presently follows a process outlined in 36 C.F.R. 9(B), a rule promulgated in December 1978, to regulate non-federal oil and gas activities in all units of the national park system. In general, these regulations require non-federal parties to submit a “Plan of Operations,” or “POP,” for proposed oil and gas activities on federal lands. However, the federal regulatory process for reviewing POPs is now 40 years old, and thus long outdated in light of recent advances in oil and gas technology. Indeed, in November 2009, the NPS initiated rulemaking to modify this regulation, which some of our organizations commented on but which NPS has not finalized.

The undersigned are therefore extremely concerned and urge NPS to expedite the process of finalizing the modifications to 36 C.F.R. 9(B) regulations through an EIS. We support stronger statutory environmental protections than the outdated 36 C.F.R. 9(B) regulations and an EIS which includes a thorough, scientific analysis of all of the modern techniques for performing oil and gas exploration, including seismic testing through vibroseis, as well as all extraction and clean-up methods. Such stronger rules are necessary to adequately protect BICY during any future oil and gas activities.

### **Lack of an Up-to-Date, Preserve-wide Oil and Gas Management Plan and EIS for BICY**

We are also concerned at the lack of an up-to-date, Preserve-wide Oil & Gas Plan to replace and supersede the 1991 MMP and 1998 Lands Exchange Act. We urge NPS to expedite the development of a Preserve-wide Oil & Gas Plan specific to BICY in addition to an updated set of 36 C.F.R. 9(B) regulations, and to expedite an EIS for the new Preserve-wide Oil & Gas Plan that includes a thorough analysis of the modern techniques for performing oil and gas exploration (including seismic testing through vibroseis), extraction, and clean-up activities. A new EIS should consider conservation alternatives that go beyond current NPS requirements.

We support a Preserve-wide Oil & Gas Plan for BICY with stronger environmental protections than the long outdated 1991 MMP. A more environmentally protective Preserve-wide Oil & Gas Plan for BICY would be consistent with BICY’s enabling legislation, which clearly states that the Preserve was created “in order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed in the State of Florida and to provide for the enhancement and public enjoyment thereof,” despite non-federal mineral ownership.

Moreover, while the enabling legislation for BICY accounts for oil and gas activities within the Preserve by mineral in-holders, it also explicitly authorizes the Secretary to acquire any lands, waters, or interests therein which are located within the boundaries of the Preserve and the Addition. For the above reasons, we also believe that a thorough EIS for an updated, Preserve-wide Oil & Gas Plan should consider as one alternative a buy-out option of the mineral estate in-holdings in BICY, and a complete ban of oil and gas activities on fully federally owned lands within BICY.

## **Burnett's Proposal for Seismic Testing in BICY**

There are several ongoing oil and gas activities within BICY of concern to the undersigned, including a proposal by Burnett Oil Company, Inc., to perform seismic testing for oil in BICY.

In particular, Burnett has submitted a state permit application (Application G-169-14) to Florida's Department of Environmental Protection (FDEP) to perform geophysical exploration on 366 square miles, or approximately one-third, of BICY. While NPS may not yet be considering a formal Plan of Operations for this proposed project pursuant to 36 C.F.R. 9(B), we want to let you know of our concerns as early in the process as possible.

Based on information provided in the state permit application, the proposed source and receiver lines could total more than 1500 miles of disturbance in the Preserve in Phase I alone.<sup>6</sup> The type of geophysical exploration proposed by Burnett—3-D seismic surveys using vibroseis—can cause significant environmental impacts. These include: removal of large amounts of trees and other vegetation; surface and sheet flow disturbance from vehicle paths of vibroseis trucks that may weigh up to 62,000 pounds,<sup>7</sup> cut lines, helicopter and equipment staging areas;<sup>8</sup> noise from helicopters, vehicles, engines, and generators; and reduced access for visitors. The cut lines can be equivalent to roads, and range in size up to fifty feet wide.

If NPS has not finalized a new Preserve-wide Oil & Gas Plan or a new set of 36 C.F.R. 9(B) regulations that include a thorough, scientific analysis of the impacts of vibroseis by the time Burnett submits a complete POP for such testing, NPS will be relying on the outdated MMP and regulations which do not properly account for the significant negative impacts to the human environment caused by seismic testing by vibroseis. Therefore, an EIS should be conducted for Burnett's POP pursuant to the National Environmental Policy Act (NEPA). The scope and gravity of the impacts of the Burnett proposal will potentially cause significant impacts on the human environment that will exceed well beyond what can be analyzed in an Environmental Assessment (EA).

Regardless of the status of an up-to-date Preserve-wide Oil & Gas Plan or updated 36 C.F.R. 9(B) regulations, review of any POP submitted by Burnett for the Nobles Grade 3-D Seismic Survey outlined in Application G-169-14 should also require a formal consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service pursuant to Section 7 of the Endangered Species Act (ESA), as well as review and consultation with other agencies pursuant to all other applicable governing laws to ensure the protection of our precious environmental, cultural, historical, and biological resources, prior to the approval or rejection of such POP.

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<sup>6</sup> Calculations based on the following information found in the Nobles Grade 3-D Seismic Survey, Application for Permit to Perform Geophysical Exploration, Permit No. G-169-14, page 3: "The initial survey design for NG3-D PHASE I consists of 64 source lines and 167 receiver lines oriented generally east/west and north/south, respectively. The 64 source lines are approximately 1,155 feet apart with source point station spacing of 82.5-foot intervals. The 167 receiver lines are approximately 495 feet apart with receiver point spacing of 165± feet."

<sup>7</sup> <http://www.terrexseismic.com/terrex-seismic/equipment/vibroseis-trucks.aspx>

<sup>8</sup> The state permit application includes a proposal to construct five (5) staging areas, only some of which will be on pre-existing well-pads.

In closing, we urge NPS to diligently begin the process to develop a new Preserve-wide Oil and Gas Plan for BICY, as well as updated 36 C.F.R. 9(B) regulations. Both should include strong environmental protections as well as a thorough analysis of all alternative methods of oil and gas exploration, production, and clean-up, including conservation alternatives such as a buy-out option and complete ban of oil and gas activities on fully federally owned Preserve land. We also support formal consultation under the ESA for the activities proposed by Burnett in Application G-169-14, as well as development of an EIS should Burnett submit a complete POP for same to NPS for review prior to the institution of updated oil and gas regulations and a new Preserve-wide Oil and Gas Plan.

We look forward to working with NPS to ensure the future preservation of BICY for all of its uses and values, and to provide constructive and positive feedback throughout the POP and NEPA processes for all oil and gas activities taking place, or proposed to take place, in BICY. Please feel free to contact the undersigned with any questions or for additional information.

Sincerely,

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May 16, 2014

Ms. Jennifer Hecker  
Director of Natural Resource Policy  
Conservancy of Southwest Florida  
1450 Merrihue Drive  
Naples, Florida 34102

Subject: Opinion and Recommendation: Noble Grade 3-D Seismic Survey Application for geophysical Exploration in the Big Cypress National Preserve, #11-0323836-001

Dear Ms. Hecker:

H2O GeoSolutions LLC (H2O) has reviewed the above referenced application to the Florida Department of Environmental Protection (FDEP) that proposes a series of deep penetrating seismic surveys using Vibroseis buggies. Based upon review of the permit application, history, use and regulation of this technology, there is a high potential for significant disturbance of the extremely sensitive shallow hydrology due to the proposed activities.

Water quality varies spatially across the region because of natural variations in geology, hydrology, and vegetation and because of differences in water management and land use<sup>1</sup>. The shallow geology and hydrology likely to be encountered within the boundary of the proposed project consist of variably sorted sand, silt, clay and shell in varying proportions, underlain by karsted limestone at shallow depths (refer to attached figure<sup>2</sup>). The acidic nature of surface waters that continuously flow through the shallow subsurface provides a chemical environment for a high degree of carbonate dissolution leading to karst development. Due to the extremely flat topography of the southern portion of the Everglades, disruption to surface elevations in the order of inches may permanently alter hydrology.

Proposed Vibroseis activities would include vibrating (and resonating) the surface sediments and shallow karsted limestone strata with large pneumatic pistons applying up to 60,000 pounds of theoretical peak force<sup>3</sup> upon mostly saturated soils (assuming dry-season conditions) to provide deep enough seismic reflection for hydrocarbon exploration in this area may:

1. Disruption soil lamination structure and resettling of effective close-packing of shallow sediments, particularly if the sediments are comprised of well-sorted grain sizes. Resettling, particular under saturated conditions would likely lead to loss of sediment pore-space as finer sediments fill in between larger well-sorted grain sized, and subsidence. Similar vibration methodology is utilized to closely-pack gravel fill typically used within trenches while installing utility pipe.
2. Crack and/or fracture shallow limestone strata and carbonate minerals. Limestone exhibits rock cleavage along preferential fracture planes. Calcite and other carbonate minerals also exhibit strong mineral cleavage.
3. Crack and/or fracture shallow, thinly veiled, karsted limestone strata leading to possible collapse and sinkhole formation and/or drainage of perched hydrologic environments.

These factors could lead to permanent disruption, alteration and degradation of the shallow hydrology within a significant portion of the Everglades and Big Cypress National Preserve.

The following are bullet point recommendations for comment to the FDEP application

- As with any project of this nature, size and scope, the cumulative impact of the Vibroseis buggy activities should be reviewed holistically to provide assurance that harm to the hydrology of this large and extremely sensitive, complex and untested wetland environment is avoided.
- The National Park Service (NPS) maintains hydrologic monitoring stations to measure water levels (stage) and water quality. Data collected at two stations (BICY and EVER provide a historical baseline, beginning as early as 1959, for assessing hydrologic conditions and making a wide range of management decisions<sup>4</sup>. Utilization of the existing monitoring system and data should be embraced to assess potential impacts that may occur due to the proposed activities.
- Activities, if they occur, should only be limited to the dry season and to the driest areas and under the driest conditions possible. Saturated sediments are more susceptible to resettling of soils and loss of pore space, likely resulting in subsidence.
- Activities performed over karsted shallow limestone should be avoided at all cost to reduce the potential for weakening of karst structures, potentially leading to loss of perched wetland conditions and impact to wetland hydroperiods.

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Opinion and Recommendation: Noble Grade 3-D Seismic Survey

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The potential for significant impact to the shallow hydrology of this extremely sensitive area warrants further cumulative impact assessment from neutral parties. Literature discovered in review does not provide adequate assessment to make sound determinations regarding the effects of such an operation upon the Everglades; there are no corollaries for comparison. There has yet to be a project of this size and scope in the Everglades. Although the proposed Vibroseis activities are likely less impactful than the alternatives, which include the use of high power explosives to create seismic and sonic waves, further investigation as to how to further avoid and minimize impacts should occur prior to approval of such a large-scale and generally proposed plan within one the world's most sensitive hydrologic areas is certainly warranted.

Respectfully,  
Noah B. Kugler, P.G.  
Principal

1. *U.S. Geological Survey Fact Sheet 097-03*
2. *Everybody loves rocks, Wordpress*
3. *Industrial Vehicles International, Inc.*
4. *U.S. Geological Survey Fact Sheet 097-03*

## **EXHIBIT 2**

May 16, 2014

Timothy Schwan  
South District Office  
Florida Department of Environmental Protection  
2295 Victoria Avenue, Suite 364  
Fort Myers, FL 33902

Sub: Application for 3-D Seismic Survey for Geophysical Exploration at Noble Grade,  
Big Cypress National Preserve (#11-0323836-001)

Dear Mr. Schwan:

I am a citizen of southwest Florida, recently retired Chief Engineer of the Big Cypress Basin of South Florida Water Management District. I presently provide volunteer services to the Conservancy of Southwest Florida on review of hydrologic and water resources engineering matters of the region. I would like to forward the following comments on the subject permit application under your review for a 3-D Seismic Survey to perform Geophysical Exploration by Burnett Oil Co, Inc at Noble Grade, Big Cypress National Preserve (BCP). My comments are specific to the Phase 1 of the project base on the application material prepared by Passarella & Associates, Inc.

The Noble Grade project proposes to traverse a portion of ~366 square mile area of the central preserve using vibroseis vehicles to set up 64 source lines and 167 receiving lines including five staging areas. The program of operation will perform GIS mapping of infrastructures, cultural resources and environmentally sensitive areas, but does not mention specific identification of the surface and shallow groundwater hydrologic-hydraulic features, soils and vegetations of wetland sloughs and flowways. The BCP encompasses a unique hydrological feature of America's Everglades. "Water is not only the most important environmental factor of BCP, it is the resource the preserve was created to protect"(Duever, et al, 1979). The shallow aquifer of the preserve is made up of permeable limestones with high transmissivities which maintains the hydroperiod regimes of the wetlands, and provides sources of potable and agricultural water supplies of the central Big Cypress Basin. The southwest portion of Noble Grade serves as the headwaters of the Turner River and numerous wetland sloughs that convey the lifeblood for overall functioning of the preserve.

The proposed seismic surveys will most likely lead to eventual extraction of oil and gas in the preserve. I would, therefore, like to request that DEP assesses the cumulative impacts of the subsequent activities on the surface and groundwater resources of the preserve. Should you have any question, or need additional information, please do not hesitate to contact me.

Sincerely,

Ananta Nath, P.E, D.WRE, F.EWRI  
Retired Chief Engineer, SFWMD  
3731 Catbrier Ct  
Bonita Springs, FL 34134  
239-948-4909

References:

1. Duever et al, 1979“The Big Cypress National Preserve”, National Audubon Society, New York, NY.