# United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

May 2, 2011

Andrea M. Kilmer
McDaniel Reserve Realty Holdings
3333 Virginia Beach Boulevard
Virginia Beach, Virginia 23452

Service Federal Activity Code: 41420-2011-CPA-0118
Date Received: March 18, 2011
Project: McDaniel Reserve Solar/Gas Power Plant

Dear Ms. Kilmer:

The purpose of this letter is to summarize recent conversations we have had regarding the potential for a proposed solar and natural gas co-generated (co-gen) power plant on the McDaniel's Ranch parcel. You requested correspondence regarding preliminary panther habitat values on the project site and potential conservation areas (Figure 1) as well as information on additional species to be considered on this site. About 2,200 acres of land currently in agricultural use (crops and pasture) are conceptually proposed to be impacted for placement of solar and gas co-gen facilities and about 3,584 acres of primarily natural lands are conceptually proposed to be conserved and managed as compensation. The parcels are located west of County Road 833 and north of the Seminole Tribe of Florida's Big Cypress Indian Reservation, in Hendry County, Florida.

This letter is being provided as preliminary technical assistance and does not constitute an official consultation under section 7 or section 10 of the Endangered Species Act (Act). A complete project plan with additional details and species surveys will need to be provided to initiate consultation. If the project has a Federal nexus (*e.g.,* U.S. Army Corps of Engineers permit, Department of Energy funding, etc.), then the appropriate Federal agency will initiate section 7 consultation; otherwise, you may choose to develop a Habitat Conservation Plan through section 10 of the Act.

**Audubon's crested caracara**

The project site is known to provide foraging habitat for the threatened Audubon's crested caracara (*Caracara cheriway*), as evidenced by the documented presence of caracaras on-site. In order to determine whether caracaras are nesting on-site, nesting surveys of the area will need to be conducted. Impacts to open pasture and potential nesting trees are considered effects to the caracara and will need be to evaluated and offset appropriately. For additional details on caracara survey methodology, as well as conservation and management guidelines, please see the following website: http://www.fws.gov/verobeach/index.cfm?Method=programs&NavProgramCategoryID=3&programID=84&ProgramCategoryID=3.

**Eastern indigo snake**

The eastern indigo snake (*Drymarchon corais couperi*) was federally listed as threatened in 1978 due to dramatic population declines caused by over-collecting for the domestic and international pet trade as well as mortalities caused by rattlesnake collectors who gassed gopher tortoise (*Gopherus polyphemus*) burrows to collect snakes (43 FR 4028). Since then, habitat lost to development has become a significant threat. Eastern indigo snakes are frequently associated with high, dry, well-drained soils and have been documented using inactive gopher tortoise burrows. Suitable habitat for the eastern indigo snake may exist on the site. If so, the Service recommends use of our *Draft Standard Protection Measures for the Eastern Indigo Snake* during any site preparation and project construction. They can be viewed or downloaded at: http://www.fws.gov/northflorida /IndigoSnakes/20040212_gd_EIS_Standard_Protection_Measures.pdf.

If gopher tortoise burrows are present, they need to be inspected for the presence of tortoises and their associated commensal species. The gopher tortoise burrow survey protocol can be located at the following link: http://myfwc.com/license/wildlife/gopher-tortoise-permits/10-or-fewer-burrows/gtsonproperty/.

**Florida panther**

The information provided indicates almost the entire project site (all but about 6 acres) and all of the conservation areas are location in the Primary Zone of the Panther Focus Area (PFA) (Kautz et al. 2006) for the endangered Florida Panther (*Puma concolor coryi*). Based on the information provided, about 2,200 acres of land currently in agricultural use (crops and pasture) are proposed to be impacted for placement of solar and gas co-gen facilities. Based on our current panther habitat analysis methodology, we believe these areas provide about 10,595 Panther Habitat Units (PHUs); our current methodology recommends impacts in the PFA Primary Zone be compensated at a 2.5 to 1 ratio based on PHUs. Therefore, the conceptually proposed impacts should be offset by compensation equivalent to about 26,487 PHUs (Figure 2).

A parcel immediately west of the proposed project, containing about 2,660 acres, is conceptually proposed for conservation as compensation for the Florida panther. Based on the information provided, this parcel would provide about 22,413 PHUs according to our current methodology (Figure 3a). An additional area of about 925 acres within the project site, which contains primarily forested areas interspersed with pasture, is also conceptually proposed for conservation as compensation for the Florida panther. In its current state, this area provides about 6,757 PHUs according to our current methodology (Figure 3b). However, reduced edge effect due to fencing the proposed project areas may result in a reduced habitat value to the panther in a future scenario. These reductions will need to be considered when evaluating the conservation value of this area for panthers as compensation.

Both the on-site and off-site compensation parcels are used by panthers as evidenced by telemetry data and would likely be considered suitable as compensation provided. As mentioned above,

specific compensation values will need to account for the change in land use and its future value to the panther. Also, in order to be considered as panther compensation, parcels must be protected in perpetuity (*i.e.*, deeded to a conservation entity or placed under a conservation easement) and a fund must be established to provide for long-term maintenance of the conservation area.

For additional information on the PFA and our PHU assessment methodology, please refer to our recent Biological Opinion for the Seminole Tribe at the following link: http://www.fws.gov/verobeach/images/biologicalopinion/20110405_letter_Service%20to%20Seminoles_CPA0134%20BC%20Homesite%20BO.pdf.

**Wood Stork**

The project is within the Core Foraging Area (CFA; 18.6 miles) of 4 known colonies of the endangered wood stork (*Mycteria americana*) Wetlands within the CFA of a wood stork colony are known to provide foraging biomass essential to the storks nesting in the area. The Service's goal within the CFA is to protect and enhance the foraging habitat for breeding wood storks. To avoid harm to nestlings and the productivity of the colony, the Service strongly recommends all wetland alterations, regardless of Corps' jurisdiction, within the CFA that have the effect of decreasing the forage base be avoided.

If wetland modification within the CFA cannot be avoided, the Service's *Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Service Consultation Area* (Service 2002) recommend compensation for the loss of this foraging resource as an appropriate conservation measure. The Service believes compensation should not only include the replacement of lost habitat function, but also the growth time (temporal lag) necessary for the habitat to achieve foraging value equal to that provided by the impacted wetland. Of particular importance in the evaluation is the type of wetland, *i.e.*, short or long hydroperiod. For wetland compensation, offering a long hydroperiod replacement for a short hydroperiod impact does not provide the same functional value to the colony. In addition, providing functional replacement outside the CFA of the colony does not provide the same resource value to the colony. The Wood Stork Guidelines can be viewed or downloaded at: http://www.fws.gov/verobeach/index.cfm?Method=programs&NavProgramCategoryID=3&programID=94&ProgramCategoryID=3.

In order to better analyze the projects effects on wood storks, a wood stork foraging analysis should be conducted for the entire site to determine the amount of foraging biomass being reduced due to proposed impacts and biomass gained through any proposed wetland restoration on the compensation sites. A copy of the wood stork methodology can be found at the following website: http://www.fws.gov/verobeach/images/pdfLibrary/20100518_letter_Service%20to%20Corps_FL%20Programmatic%20Stork%20revised1.pdf.

We have also provided for your consideration the following link: http://migratorybirds.fws.gov/. The link provides information on species the Service is required to protect and conserve under other authorities, such as the Fish and Wildlife Coordination Act of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 *et seq.*) and the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701

*et seq.*). A variety of habitats in Hendry County occasionally provide resting, feeding, and nesting sites for a variety of migratory bird species. As a public trust resource, migratory birds must be taken into consideration during project planning and design. In addition, please contact the FWC at 863-648-3200 regarding State-listed species occurring in the vicinity of your project.

Thank you for your cooperation in the effort to protect fish and wildlife resources. If you have any questions regarding this letter, please contact Victoria Foster at 772-469-4269.

Sincerely yours,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

cc: electronic only
Collier County Audubon Society, Naples, Florida (Brad Cornell)
Corps, Fort Myers, Florida (Tunis McElwain)
Florida Wildlife Federation, Naples, Florida (Manley Fuller, Nancy Peyton)
Service, Vero Beach, Florida (Craig Aubrey, Chris Belden)

## LITERATURE CITED

Kautz, R., R. Kawula, T. Hoctor, J. Comiskey, D. Jansen, D. Jennings, J. Kasbohm, F. Mazzotti, R. McBride, L. Richardson, and K. Root. 2006. How much is enough? Landscape-scale conservation for the Florida panther. Biological Conservation 130:118-133.

U.S. Fish and Wildlife Service. 2002. Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Services Consultation Area. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida. 8pp.

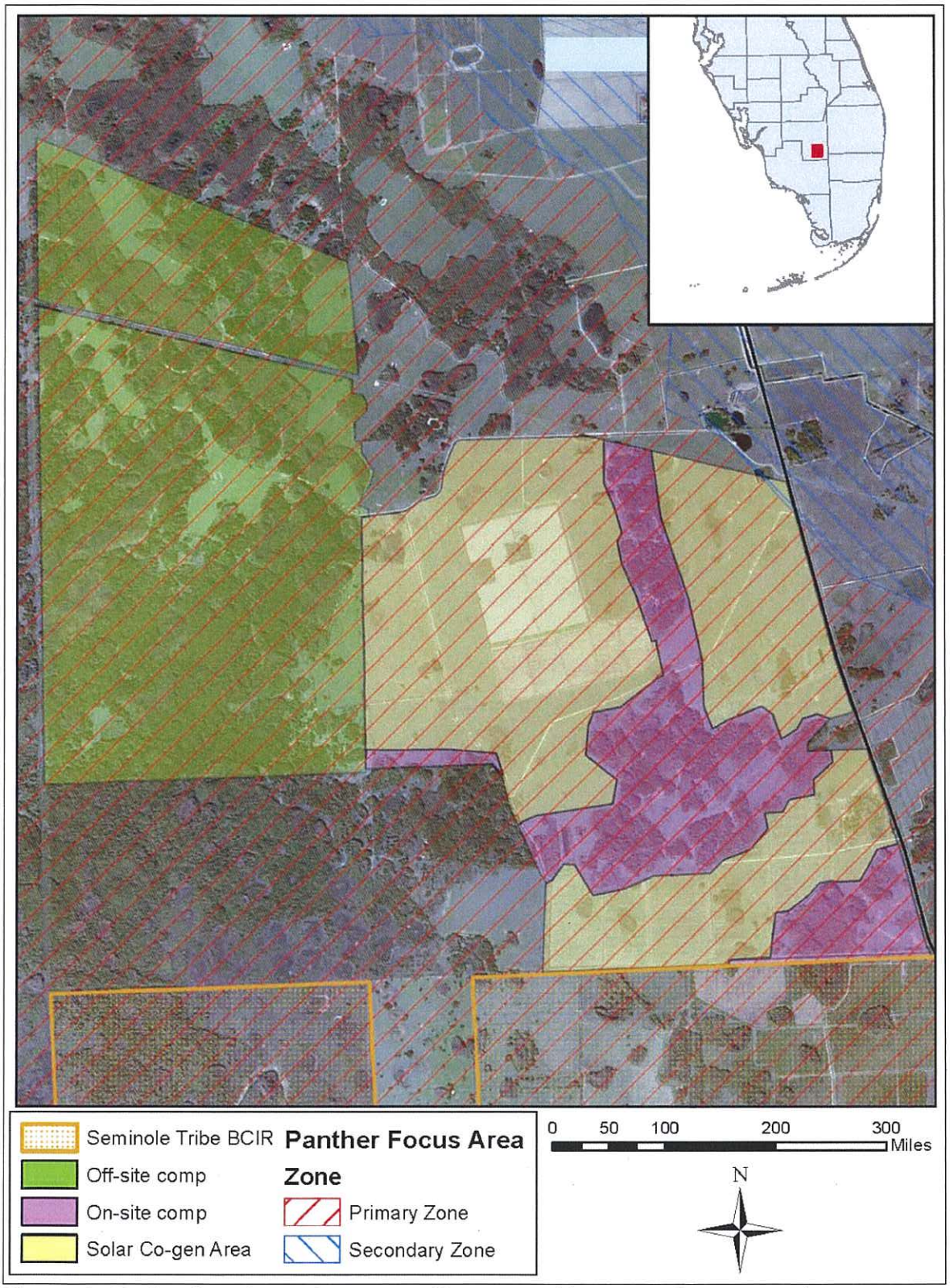



**Figure 1.** Project location and conceptually proposed impact and compensation areas.

PROJECT WORKSHEET

| Habitat Type | Assigned value | Habitat types of land to be developed (hectares) Primary/d Zone | Secondary Zone | Other Zone | Habitat Units | Habitat types of land after development (hectares) Primary/d Zone | Secondary Zone | Other Zone | Habitat Units |
|---|---|---|---|---|---|---|---|---|---|
| Pine forest | 9.5 | 15.99 | | | 152 | 1.6 | | | 15 |
| Hardwood-Pine | 9.3 | 10.12 | | | 94 | 6.9 | | | 64 |
| Cypress swamp | 9.2 | 113.73 | | | 1046 | 50.2 | | | 462 |
| Hardwood swamp | 9.2 | 376.57 | | | 3464 | 345.2 | | | 3176 |
| Hardwood Forest | 9 | 133.52 | | | 1202 | 119.2 | | | 1073 |
| Dry prairie | 6.3 | 6.92 | | | 44 | | | | 0 |
| Unimproved pasture | 5.7 | | | | 0 | | | | 0 |
| Shrub swamp/brush | 5.5 | | | | 0 | | | | 0 |
| Improved pasture | 5.2 | 1709.06 | | | 8887 | 360.1 | | | 1873 |
| Cropland | 4.8 | 130.66 | | | 627 | 0.7 | | | 3 |
| Orchards/groves | 4.7 | | | | 0 | | | | 0 |
| Marsh/ wet prairie | 4.7 | 21.78 | | | 102 | 5.2 | | | 24 |
| Xeric scrub | 4.5 | | | | 0 | | | | 0 |
| Exotic/Nuisance plants | 3 | | | | 0 | | | | 0 |
| Coastal wetlands | 3 | | | | 0 | | | | 0 |
| Barren/Disturbed lands | 3 | 573.79 | 5.67 | | 1733 | 22.3 | | | 67 |
| Water | 0 | 24.24 | | | 0 | 12.9 | | | 0 |
| Urban | 0 | 4.95 | | | 0 | 2197.03 | 5.67 | | 0 |
| Reservoirs* | | | | | 0 | | | | 0 |
| STA* | | | | | 0 | | | | 0 |
| TOTAL | | 3121.33 | 5.67 | 0.00 | 17351.81 | 3121.33 | 5.67 | 0.00 | 6757.07 |

CONTINUE

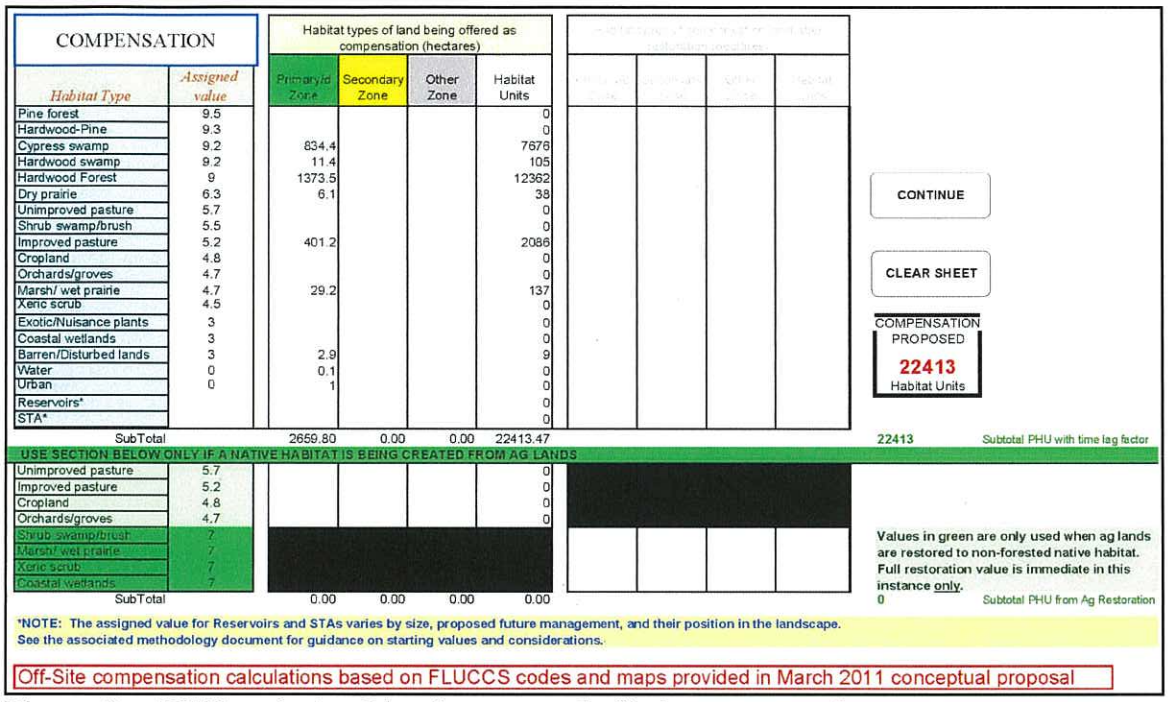
CLEAR SHEET

COMPENSATION REQUIRED
26487
Habitat Units

*NOTE: The assigned value for Reservoirs and STAs varies by size, proposed future management, and their position in the landscape.
See the associated methodology document for guidance on starting values and considerations.

Impact calculations based on FLUCCS codes and maps provided in March 2011 conceptual proposal

**Figure 2.** PHU analysis table of conceptual impacts.



COMPENSATION

Habitat types of land being offered as compensation (hectares)

| Habitat Type | Assigned value | Primary/d Zone | Secondary Zone | Other Zone | Habitat Units |
|---|---|---|---|---|---|
| Pine forest | 9.5 | | | | 0 |
| Hardwood-Pine | 9.3 | | | | 0 |
| Cypress swamp | 9.2 | 834.4 | | | 7676 |
| Hardwood swamp | 9.2 | 11.4 | | | 105 |
| Hardwood Forest | 9 | 1373.5 | | | 12362 |
| Dry prairie | 6.3 | 6.1 | | | 38 |
| Unimproved pasture | 5.7 | | | | 0 |
| Shrub swamp/brush | 5.5 | | | | 0 |
| Improved pasture | 5.2 | 401.2 | | | 2086 |
| Cropland | 4.8 | | | | 0 |
| Orchards/groves | 4.7 | | | | 0 |
| Marsh/ wet prairie | 4.7 | 29.2 | | | 137 |
| Xeric scrub | 4.5 | | | | 0 |
| Exotic/Nuisance plants | 3 | | | | 0 |
| Coastal wetlands | 3 | | | | 0 |
| Barren/Disturbed lands | 3 | 2.9 | | | 9 |
| Water | 0 | 0.1 | | | 0 |
| Urban | 0 | 1 | | | 0 |
| Reservoirs* | | | | | 0 |
| STA* | | | | | 0 |
| SubTotal | | 2659.80 | 0.00 | 0.00 | 22413.47 |

CONTINUE

CLEAR SHEET

COMPENSATION PROPOSED
22413
Habitat Units

22413 Subtotal PHU with time lag factor

USE SECTION BELOW ONLY IF A NATIVE HABITAT IS BEING CREATED FROM AG LANDS

| | | | | | |
|---|---|---|---|---|---|
| Unimproved pasture | 5.7 | | | | 0 |
| Improved pasture | 5.2 | | | | 0 |
| Cropland | 4.8 | | | | 0 |
| Orchards/groves | 4.7 | | | | 0 |
| Shrub swamp/brush | 7 | | | | |
| Marsh/ wet prairie | 7 | | | | |
| Xeric scrub | 7 | | | | |
| Coastal wetlands | 7 | | | | |
| SubTotal | | 0.00 | 0.00 | 0.00 | 0.00 |

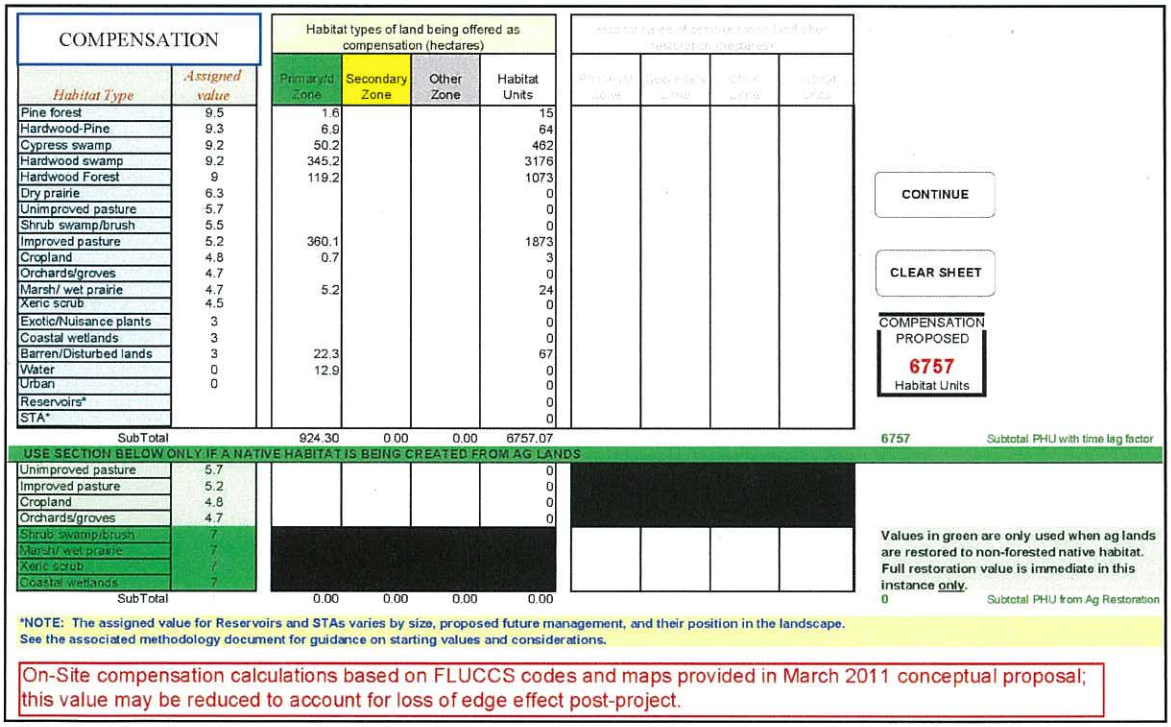
Values in green are only used when ag lands are restored to non-forested native habitat. Full restoration value is immediate in this instance only.

0 Subtotal PHU from Ag Restoration

*NOTE: The assigned value for Reservoirs and STAs varies by size, proposed future management, and their position in the landscape.
See the associated methodology document for guidance on starting values and considerations.

Off-Site compensation calculations based on FLUCCS codes and maps provided in March 2011 conceptual proposal

**Figure 3a.** PHU analysis table of conceptual off-site compensation.



COMPENSATION

Habitat types of land being offered as compensation (hectares)

| Habitat Type | Assigned value | Primary/d Zone | Secondary Zone | Other Zone | Habitat Units |
|---|---|---|---|---|---|
| Pine forest | 9.5 | 1.6 | | | 15 |
| Hardwood-Pine | 9.3 | 6.9 | | | 64 |
| Cypress swamp | 9.2 | 50.2 | | | 462 |
| Hardwood swamp | 9.2 | 345.2 | | | 3176 |
| Hardwood Forest | 9 | 119.2 | | | 1073 |
| Dry prairie | 6.3 | | | | 0 |
| Unimproved pasture | 5.7 | | | | 0 |
| Shrub swamp/brush | 5.5 | | | | 0 |
| Improved pasture | 5.2 | 360.1 | | | 1873 |
| Cropland | 4.8 | 0.7 | | | 3 |
| Orchards/groves | 4.7 | | | | 0 |
| Marsh/ wet prairie | 4.7 | 5.2 | | | 24 |
| Xeric scrub | 4.5 | | | | 0 |
| Exotic/Nuisance plants | 3 | | | | 0 |
| Coastal wetlands | 3 | | | | 0 |
| Barren/Disturbed lands | 3 | 22.3 | | | 67 |
| Water | 0 | 12.9 | | | 0 |
| Urban | 0 | | | | 0 |
| Reservoirs* | | | | | 0 |
| STA* | | | | | 0 |
| SubTotal | | 924.30 | 0.00 | 0.00 | 6757.07 |

CONTINUE

CLEAR SHEET

COMPENSATION PROPOSED
6757
Habitat Units

6757 Subtotal PHU with time lag factor

USE SECTION BELOW ONLY IF A NATIVE HABITAT IS BEING CREATED FROM AG LANDS

| | | | | | |
|---|---|---|---|---|---|
| Unimproved pasture | 5.7 | | | | 0 |
| Improved pasture | 5.2 | | | | 0 |
| Cropland | 4.8 | | | | 0 |
| Orchards/groves | 4.7 | | | | 0 |
| Shrub swamp/brush | 7 | | | | |
| Marsh/ wet prairie | 7 | | | | |
| Xeric scrub | 7 | | | | |
| Coastal wetlands | 7 | | | | |
| SubTotal | | 0.00 | 0.00 | 0.00 | 0.00 |

Values in green are only used when ag lands are restored to non-forested native habitat. Full restoration value is immediate in this instance only.

0 Subtotal PHU from Ag Restoration

*NOTE: The assigned value for Reservoirs and STAs varies by size, proposed future management, and their position in the landscape.
See the associated methodology document for guidance on starting values and considerations.

On-Site compensation calculations based on FLUCCS codes and maps provided in March 2011 conceptual proposal; this value may be reduced to account for loss of edge effect post-project.

**Figure 3b.** PHU analysis table of conceptual on-site compensation.