PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Plug Site at Coastal Prairie Trail - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612	E2SS3P	Permanent Impact	**0.014**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The Slagle Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The Slagle Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the Slagle Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots. The Slagle Ditch alignment north of the Old Ingraham Highway consists of open water bordered primarily by black mangrove and saltwort with white mangrove and red mangrove. No submerged vegetation was observed in this system. The slightly elevated remnant of the Old Ingraham Highway is vegetated with a mix of wetland and non-wetland species. Common tree and shrub species include buttonwood, saffron plum, catclaw blackbead (Pithecellobium unguis-cati), limber caper, gray knicker (Caesalpinia bonduc), and white indigoberry (Randia aculeata). Common ground cover species include saltwort, sea blite (Suaeda linearis), common wireweed, bushy seaside oxeye (Borrichia frutescens), perennial glasswort (Sarcocornia ambigua), saltgrass (Distichlis spicata), and bladdermallow (Herissantia crispa).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - T, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Plug Site at Coastal Prairie Trail - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Permanent Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Plug construction will temporarily impact fish and wildlife within project vicinity; however, the project will provide long term benefits to fish and wildlife habitat in the interior wetland system.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Construction of the plug will halt bank erosion of the Old Ingraham Highway helping to minimize tidal flow to the wetland system which will result in an enhancement of water quality.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**5**	**0**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Plug restoration will result in the loss of existing wetland vegetation along the northern edge of the Old Ingraham Highway from the installation of fill material and associated bank armoring.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.667	**0.500**

Delta = [with-current]
-0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.003**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Plug Site at Coastal Prairie Trail - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612	E2SS3P	Temporary Impact	**0.009**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The Slagle Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The Slagle Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the Slagle Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots. The Slagle Ditch alignment north of the Old Ingraham Highway consists of open water bordered primarily by black mangrove and saltwort with white mangrove and red mangrove. No submerged vegetation was observed in this system. The slightly elevated remnant of the Old Ingraham Highway is vegetated with a mix of wetland and non-wetland species. Common tree and shrub species include buttonwood, saffron plum, catclaw blackbead (Pithecellobium unguis-cati), limber caper, gray knicker (Caesalpinia bonduc), and white indigoberry (Randia aculeata). Common ground cover species include saltwort, sea blite (Suaeda linearis), common wireweed, bushy seaside oxeye (Borrichia frutescens), perennial glasswort (Sarcocornia ambigua), saltgrass (Distichlis spicata), and bladdermallow (Herissantia crispa).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - T, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Plug Site at Coastal Prairie Trail - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife. Plug construction will temporarily impact fish and wildlife within project vicinity; however, the project will provide long term benefits to fish and wildlife habitat in the interior wetland system.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Construction of the plug will halt bank erosion of the Old Ingraham Highway helping to minimize tidal flow to the wetland system which will result in an enhancement of water quality.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**5**	**0**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Woody vegetation will be cleared for safe construction.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.667	**0.500**

Delta = [with-current]
-0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.002**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Accessway from Helicopter Drop Area to Plug Location- Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642 / 612	E2EM1N/P, E2SS3P	Temporary Impact	**0.023**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The Slagle Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The Slagle Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the Slagle Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots. The Slagle Ditch alignment north of the Old Ingraham Highway consists of open water bordered primarily by black mangrove and saltwort with white mangrove and red mangrove. No submerged vegetation was observed in this system. The slightly elevated remnant of the Old Ingraham Highway is vegetated with a mix of wetland and non-wetland species. Common tree and shrub species include buttonwood, saffron plum, catclaw blackbead (Pithecellobium unguis-cati), limber caper, gray knicker (Caesalpinia bonduc), and white indigoberry (Randia aculeata). Common ground cover species include saltwort, sea blite (Suaeda linearis), common wireweed, bushy seaside oxeye (Borrichia frutescens), perennial glasswort (Sarcocornia ambigua), saltgrass (Distichlis spicata), and bladdermallow (Herissantia crispa).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Dam Site at Coastal Prairie Trail - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by ditch. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Minimal effect of habitat support outside of AA.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. No soil disturbance will occur allowing for minimal impacts to water quality during construction activities for the plug.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**7**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Temporary matting (if needed) will be employed and area will be restored to pre-existing conditions to facilitate regrowth of native hydrophytic vegetation.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.733	**0.667**

Delta = [with-current]
-0.066

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.001**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Helicopter Drop Area - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642	E2EM1N/P	Temporary Impact	**0.080**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

Potential 60-foot by 60-foot helicopter drop area identified approximately 150 feet north northwest of the proposed Slagle Ditch dam site was composed of a regularly to irregularly inundated saltwort prairie with widely-spaced black mangrove shrubs. The area between the proposed plug site and the potential helicopter drop area consists primarily of saltwort prairie transitioning southward to black mangrove scrub-shrub with a dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.

Functions	Mitigation for previous permit/other historic use
Wildlife and fisheries habitat, water quality	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), fiddler crab (*Uca* sp.)	American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, various wading birds - SSC

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Proposed Helicopter Drop Area - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by ditch. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Minimal effect of habitat support outside of AA.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. No soil disturbance will occur allowing for minimal impacts to water quality during construction activities for the plug.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**7**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Temporary matting (if needed) will be employed and area will be restored to pre-existing conditions to facilitate regrowth of native hydrophytic vegetation.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.733	**0.667**

Delta = [with-current]
-0.066

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.005**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Dam Site at Coastal Prairie Trail - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 512	E2SS3P	Permanent Impact	**0.006**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The House Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The House Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the House Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots along with black mangrove (*Avicennia germinans*). The House Ditch alignment north of the Old Ingraham Highway consists of a relatively wide expanse of open water bordered primarily by black mangrove and saltwort (*Batis maritima*). No submerged vegetation was observed in this system. The elevated remnant of the Old Ingraham Highway is vegetated primarily with non-wetland species. The woody component is dominated by saffron plum (*Sideroxylon celastrinum*) along with limber caper (*Capparis flexuosa*) and buttonwood (*Conocarpus erectus*). Common ground cover species include Indian hemp (*Sida rhombifolia*), sleepy morning (*Waltheria indica*), sensitive pea (*Chamaecrista nictitans*), and scorpionstail (*Heliotropium angiospermum*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.

Functions	Mitigation for previous permit/other historic use
Wildlife and fisheries habitat, water quality	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamonback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Dam Site Wetlands Impacts
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Permanent Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by plug. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Plug construction will temporarily impact fish and wildlife; however the construction of the plug will benefit fish and wildlife habitat in the interior wetland system due to the lessoning of tidal velocities through the area.
.500(6)(b)Water Environment (n/a for uplands)	**6**	**7**	Tidal flow over and through crab burrows in the elevated remant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Construction of a plug will halt the erosion and minmize tidal flow into the interior via the House Ditch. This will also enhance interior wetland water quality by stopping the tidal flow contributing to saltwater degradation of the interior wetlands.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**5**	**0**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remant roadbed. Construction of the plug will result in the loss of mangrove/buttonwood/saltwort vegetation along elevated roadbed from the permanent installation of fill.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.633	**0.5000**

Delta = [with-current]
-0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Accessway from Helicopter Drop Area to Plug Location- Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612/642/651	E2SS3P, E2EMIN/P	Temporary Impact	**0.016**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The House Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The House Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the House Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots along with black mangrove (*Avicennia germinans*). The House Ditch alignment north of the Old Ingraham Highway consists of a relatively wide expanse of open water bordered primarily by black mangrove and saltwort (*Batis maritima*). No submerged vegetation was observed in this system. The elevated remnant of the Old Ingraham Highway is vegetated primarily with non-wetland species. The woody component is dominated by saffron plum (*Sideroxylon celastrinum*) along with limber caper (*Capparis flexuosa*) and buttonwood (*Conocarpus erectus*). Common ground cover species include Indian hemp (*Sida rhombifolia*), sleepy morning (*Waltheria indica*), sensitive pea (*Chamaecrista nictitans*), and scorpionstail (*Heliotropium angiospermum*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Accessway from Helicopter Drop Area to Plug Location- Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Minimal effect of habitat support outside of AA.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. No soil disturbance will occur allowing for minimal impacts to water quality during construction activities for the plug.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**7**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Temporary matting (if needed) will be employed and area will be restored to pre-existing conditions to facilitate regrowth of native hydrophytic vegetation.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.733	**0.667**

Delta = [with-current]
-0.066

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.001**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Helicopter Drop Area Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642/651	E2EM1N/P	Temporary Impact	**0.080**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

A potential 60-foot by 60-foot helicopter drop area identified approximately 150 feet north northwest of the proposed dam site was composed of a regularly to irregularly inundated mosaic of non-vegetated marl flats and saltwort prairie. Widely-spaced shrub-size black mangrove are present. The area between the proposed dam site and the potential helicopter drop area consists primarily of black mangrove scrub-shrub with a dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.

Functions	Mitigation for previous permit/other historic use
Wildlife and fisheries habitat, water quality	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), fiddler crab (*Uca* sp.)	American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, various wading birds - SSC

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, fiddler crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Helicopter Drop Area Wetlands Impacts
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from not limited. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Minimal effect of habitat support outside of AA.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. No soil disturbance will occur allowing for minimal impacts to water quality during construction activities for the plug.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**7**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. Temporary matting (if needed) will be employed and area will be restored to pre-existing conditions to facilitate regrowth of native hydrophytic vegetation.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.733	**0.667**

Delta = [with-current]
-0.066

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.005**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Proposed Dam Site / Alternatives 4A/4B - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 642	E2FO3P, E2SS3P, E2FO3N/P	Permanent Impact	**0.017**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made canal traversing emergent carbonate marl ridge between Lake Ingraham via Little Sable Creek and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the canal that breached the marl ridge resulting in tidal intrusion into the marsh habitat. Lake Ingraham is connected to Florida Bay and Gulf of Mexico via canals now functioning as tidal inlets following dramatic lateral erosion after construction.

Assessment area description

The Raulerson Canal was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to a naturally-formed tidal creek, Little Sable Creek, entering the northwestern extent of Lake Ingraham at the extensively-eroded Middle Cape Canal. Permanently-inundated Raulerson Canal originally was excavated for development purposes. The substrate at the proposed plug site on the excavated canal is comprised of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. No submerged vegetation exists within the waterway itself, possibly due to considerable turbidity resulting from the interaction of strong tidal currents and suspended fine particles originating with the marl substrate. The banks of the approach to the proposed plug site are comprised primarily of regularly flooded mangrove wetlands dominated by red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*) with a sparse to dense groundcover dominated by red mangrove seedlings, black mangrove nematophores, and saltwort (*Batis maritima*). The south side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated dense ground cover of saltwort with an open canopy black mangrove woodland on the west transitioning eastward to a saltwort community with widely spaced black mangrove and white mangrove shrubs. The north side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated open canopy woodland dominated by black mangrove with a lesser component of white mangrove and red mangrove and a moderate to dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cape Sable, Lake Ingraham, Gulf of Mexico, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American crocodile, belted kingfishers, unidentified passerines, lemon sharks, mullet, needlefish, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Proposed Dam Site / Alternatives 4A/4B - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Permanent Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by failed dam in form of increase saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife No change to habitats outside the AA upon completion of activities in work zones.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Increasing tidal flow through the canal after previously constructed plug failed is inappropriate for system. Daily tidal fluctuations causing severe lateral erosion of the canal banks allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Erosion of the canal banks also contributing to loss of mangrove and saltwort prairie habitat Water environment expected to be enhanced.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**5**	**0**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation adjacent to canal increasing lost to the lateral erosion of the canal banks caused by excessive currents through failed dam. Vegetation and habitat will continue to deteriorate not only along canal banks but also within interior wetland systems due to the saltwater intrusion allowed by the failed dam. Vegetation removed and area filled.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.667	**0.500**

Delta = [with-current]
-0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.003**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Alts 4A/4B Temporary Canal Access - Mangrove Trimming

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612	E2FO3P, E2SS3P, E2FO3N/P	Temporary Impact	**0.199**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made canal traversing emergent carbonate marl ridge between Lake Ingraham via Little Sable Creek and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the canal that breached the marl ridge resulting in tidal intrusion into the marsh habitat. Lake Ingraham is connected to Florida Bay and Gulf of Mexico via canals now functioning as tidal inlets following dramatic lateral erosion after construction.

Assessment area description

The Raulerson Canal was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to a naturally-formed tidal creek, Little Sable Creek, entering the northwestern extent of Lake Ingraham at the extensively-eroded Middle Cape Canal. Permanently-inundated Raulerson Canal originally was excavated for development purposes. The substrate at the proposed plug site on the excavated canal is comprised of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. No submerged vegetation exists within the waterway itself, possibly due to considerable turbidity resulting from the interaction of strong tidal currents and suspended fine particles originating with the marl substrate. The banks of the approach to the proposed plug site are comprised primarily of regularly flooded mangrove wetlands dominated by red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*) with a sparse to dense groundcover dominated by red mangrove seedlings, black mangrove nematophores, and saltwort (*Batis maritima*). The south side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated dense ground cover of saltwort with an open canopy black mangrove woodland on the west transitioning eastward to a saltwort community with widely spaced black mangrove and white mangrove shrubs. The north side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated open canopy woodland dominated by black mangrove with a lesser component of white mangrove and red mangrove and a moderate to dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cape Sable, Lake Ingraham, Gulf of Mexico, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American crocodile, belted kingfishers, unidentified passerines, lemon sharks, mullet, needlefish, small unidentified fish, various crabs.

Additional relevant factors:

In order to provide barge access to the failed plug site for construction in Raulerson Canal, mangroves extending outward from the banks into the canal will be trimmed or removed to allow passage of construction barges. Since more than 25% of the exiting tree foliage may require trimming, these trees will be considered a "take" per the FDEP mangrove trimming criteria. However, these trees will not be completely removed from the banks of the canal. Upon cessation of construction activities, vegetation along the canal banks will be allowed to regrow naturally. All activities will take place outside the nesting of the American crocodile to avoid disturbances to potential crocodile nesting.

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Alts 4A/4B Temporary Canal Access - Mangrove Trimming
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**6**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by failed dam in form of increase saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife Removal of mangroves that extend into the canal and trimming of overhanging mangroves and other trees along the banks from the junction of Raulerson Canal and Little Sable Creek with Lake Ingraham to the failed plug site will have minimal affect on habitat support outside of the AA.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Increasing tidal flow through the canal after previously constructed plug failed is inappropriate for system. Daily tidal fluctuations causing severe lateral erosion of the canal banks allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Erosion of the canal banks also contributing to loss of mangrove and saltwort prairie habitat A minimal number of toppled mangroves will be removed to allow passage of a barge to failed plug site. Toppled trees will be cut and no soil disturbance will occur allowing for minimal impacts to water quality.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**6**	**4**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation adjacent to canal increasing lost to the lateral erosion of the canal banks caused by excessive currents through failed dam. Vegetation and habitat will continue to deteriorate not only along canal banks but also within interior wetland systems due to the saltwater intrusion allowed by the failed dam. Limited mangrove trimming and removal of toppled mangroves and other trees will result in a temporary minor loss of aerial mangrove/buttonwood canopy cover along canal banks over the canal.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.700	**0.567**

Delta = [with-current]
-0.133

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.265**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Proposed Dam Site / Alternatives 4A/4B - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 642	E2FO3P, E2SS3P, E2FO3N/P	Temporary Impact	**0.270**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made canal traversing emergent carbonate marl ridge between Lake Ingraham via Little Sable Creek and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the canal that breached the marl ridge resulting in tidal intrusion into the marsh habitat. Lake Ingraham is connected to Florida Bay and Gulf of Mexico via canals now functioning as tidal inlets following dramatic lateral erosion after construction.

Assessment area description

The Raulerson Canal was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to a naturally-formed tidal creek, Little Sable Creek, entering the northwestern extent of Lake Ingraham at the extensively-eroded Middle Cape Canal. Permanently-inundated Raulerson Canal originally was excavated for development purposes. The substrate at the proposed plug site on the excavated canal is comprised of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. No submerged vegetation exists within the waterway itself, possibly due to considerable turbidity resulting from the interaction of strong tidal currents and suspended fine particles originating with the marl substrate. The banks of the approach to the proposed plug site are comprised primarily of regularly flooded mangrove wetlands dominated by red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*) with a sparse to dense groundcover dominated by red mangrove seedlings, black mangrove nematophores, and saltwort (*Batis maritima*). The south side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated dense ground cover of saltwort with an open canopy black mangrove woodland on the west transitioning eastward to a saltwort community with widely spaced black mangrove and white mangrove shrubs. The north side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated open canopy woodland dominated by black mangrove with a lesser component of white mangrove and red mangrove and a moderate to dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cape Sable, Lake Ingraham, Gulf of Mexico, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American crocodile, belted kingfishers, unidentified passerines, lemon sharks, mullet, needlefish, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Proposed Dam Site / Location 2 - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Temporary Impact	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by failed dam in form of increase saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife No change to habitats outside the AA upon completion of activities in work zones.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Increasing tidal flow through the canal after previously constructed plug failed is inappropriate for system. Daily tidal fluctuations causing severe lateral erosion of the canal banks allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Erosion of the canal banks also contributing to loss of mangrove and saltwort prairie habitat Water environment expected to be enhanced.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**5**	**0**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation adjacent to canal increasing lost to the lateral erosion of the canal banks caused by excessive currents through failed dam. Vegetation and habitat will continue to deteriorate not only along canal banks but also within interior wetland systems due to the saltwater intrusion allowed by the failed dam. Woody vegetation to be removed within affected area.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.667	**0.500**

Delta = [with-current]
-0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	**-0.045**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Temporary Impacts Restoration for Plug, Accessway and Helicopter Drop Area

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 512	E2SS3P, E2EM1N/P	Mitigation	**0.106**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The Slagle Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The Slagle Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the Slagle Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots. The Slagle Ditch alignment north of the Old Ingraham Highway consists of open water bordered primarily by black mangrove and saltwort with white mangrove and red mangrove. No submerged vegetation was observed in this system. The slightly elevated remnant of the Old Ingraham Highway is vegetated with a mix of wetland and non-wetland species. Common tree and shrub species include buttonwood, saffron plum, catclaw blackbead (Pithecellobium unguis-cati), limber caper, gray knicker (Caesalpinia bonduc), and white indigoberry (Randia aculeata). Common ground cover species include saltwort, sea blite (Suaeda linearis), common wireweed, bushy seaside oxeye (Borrichia frutescens), perennial glasswort (Sarcocornia ambigua), saltgrass (Distichlis spicata), and bladdermallow (Herissantia crispa).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - T, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Slagle Ditch - Temporary Impacts Restoration for Plug, Accessway and Helicopter Drop Area
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife No change to habitats outside of AA upon completion of activities in work zones.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Minimal change to water environment upon completion of activities.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**0**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. After construction is completed, the area will be planted as needed and additional regrowth of wetland vegetation is expected to occur naturally. Impacted area will be monitored and maintained exotic free.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.500	**0.667**

Delta = [with-current]
0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) = 1.14
Risk factor = 1.25

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.117

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Temporary Impacts Restoration for Plug, Accessway and Helicopter Drop Area

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 642 / 651	E2EM1N/P, E2SS3P	Mitigation	**0.099**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made ditch traversing emergent carbonate marl ridge between Florida Bay and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the ditch that breached the marl ridge resulting in tidal intrusion into the marsh habitat.

Assessment area description

The House Ditch was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to Florida Bay. The House Ditch was originally excavated for development purposes. The substrate at the 40-foot by 40-foot proposed plug site is partially composed of fill material that was used for the construction of the slightly elevated Old Ingraham Highway in the 1920s which bisects the alignment of the House Ditch. The underlying substrate consists of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. South of the elevated remnant of the Old Ingraham Highway, the narrow, regularly inundated ditch is overgrown with red mangrove and their associated prop roots along with black mangrove (Avicennia germinans). The House Ditch alignment north of the Old Ingraham Highway consists of a relatively wide expanse of open water bordered primarily by black mangrove and saltwort (Batis maritima). No submerged vegetation was observed in this system. The elevated remnant of the Old Ingraham Highway is vegetated primarily with non-wetland species. The woody component is dominated by saffron plum (Sideroxylon celastrinum) along with limber caper (Capparis flexuosa) and buttonwood (Conocarpus erectus). Common ground cover species include Indian hemp (Sida rhombifolia), sleepy morning (Waltheria indica), sensitive pea (Chamaecrista nictitans), and scorpionstail (Heliotropium angiospermum).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida Bay, Cape Sable, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, unidentified passerines, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		House Ditch - Proposed Dam Site at Coastal Prairie Trail - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by increased saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife. No change to habitats outside of AA upon completion of activities in work zones.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Tidal flow over and through crab burrows in the elevated remnant the Old Ingraham Highway is resulting in and increasing breakdown of the integrity of the elevated area allowing tidal flow into the interior. Erosion caused by daily tidal fluctuations is allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Minimal change to water environment upon completion of activities.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**0**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation and habitat will continue to deteriorate within interior wetland systems due to the saltwater intrusion allowed by the increasing erosion of the remnant roadbed. After construction is completed, the area will be planted as needed and additional regrowth of wetland vegetation is expected to occur naturally. Impacted area will be monitored and maintained exotic free.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.500	**0.667**

Delta = [with-current]
0.167

If preservation as mitigation,	
Preservation adjustment factor =	
Adjusted mitigation delta =	

If mitigation	
Time lag (t-factor) =	**1.14**
Risk factor =	**1.25**

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas	
RFG = delta/(t-factor x risk) =	**0.117**

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Alts 4A/4B Restoration of Temporary Impact Area

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612 / 642	E2FO3P, E2SS3P, E2FO3N/P	Mitigation	**0.270**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Man-made canal traversing emergent carbonate marl ridge between Lake Ingraham via Little Sable Creek and the interior mosaic of mangrove wetlands and numerous shallow subtidal open water areas that were formerly brackish to fresh marshes prior to construction of the canal that breached the marl ridge resulting in tidal intrusion into the marsh habitat. Lake Ingraham is connected to Florida Bay and Gulf of Mexico via canals now functioning as tidal inlets following dramatic lateral erosion after construction.

Assessment area description

The Raulerson Canal was constructed in the 1920s and cuts across the marl ridge from the interior wetlands to connect to a naturally-formed tidal creek, Little Sable Creek, entering the northwestern extent of Lake Ingraham at the extensively-eroded Middle Cape Canal. Permanently-inundated Raulerson Canal originally was excavated for development purposes. The substrate at the proposed plug site on the excavated canal is comprised of a sequence of fine carbonate mud, marl, underlain by a relatively narrow peat layer followed by limestone bedrock. No submerged vegetation exists within the waterway itself, possibly due to considerable turbidity resulting from the interaction of strong tidal currents and suspended fine particles originating with the marl substrate. The banks of the approach to the proposed plug site are comprised primarily of regularly flooded mangrove wetlands dominated by red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*) with a sparse to dense groundcover dominated by red mangrove seedlings, black mangrove nematophores, and saltwort (*Batis maritima*). The south side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated dense ground cover of saltwort with an open canopy black mangrove woodland on the west transitioning eastward to a saltwort community with widely spaced black mangrove and white mangrove shrubs. The north side of the canal at the proposed plug site is characterized by a regularly to irregularly inundated open canopy woodland dominated by black mangrove with a lesser component of white mangrove and red mangrove and a moderate to dense ground cover of saltwort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cape Sable, Lake Ingraham, Gulf of Mexico, Marl Ridge, interior Cape Sable wetlands.	Low for mangroves wetlands, medium for mosaic of black mangrove shrub and saltwort coastal prairie on marl ridge.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), red-shouldered hawk (*Buteo lineatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls, belted kingfisher (*Ceryle alcyon*), diamondback terrapin (*Malaclemys terrapin*), mullet (*Mugil* spp.), pinfish (*Lagodon rhomboides*), blue crab (*Callinectes sapidus*), fiddler crab (*Uca* sp.)	Smalltooth sawfish (*Pristis pectinata*) - E, American crocodile (*Crocodylus acutus*) - T, eastern indigo snake (*Drymarchon corais couperi*) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American crocodile, belted kingfishers, unidentified passerines, lemon sharks, mullet, needlefish, small unidentified fish, various crabs.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 30, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Raulerson Canal - Alts 4A/4B Restoration of Temporary Impact Area
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	Michael Breiner	July 30, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**8**	**8**	Habitats outside of the AA optimal for most wildlife expected to occur in the area. Very little invasive exotic vegetation occurs in the vicinity of the AA. Wildlife access to and from minimally limited by canal. Downstream functions negatively affected by failed dam in form of increase saltwater intrusion in interior wetland systems. Land uses outside AA minimally affect fish and wildlife No change to habitats outside the AA upon completion of activities in work zones.
.500(6)(b)Water Environment (n/a for uplands)	**7**	**7**	Increasing tidal flow through the canal after previously constructed plug failed is inappropriate for system. Daily tidal fluctuations causing severe lateral erosion of the canal banks allowing increasing flow resulting with greater saltwater intrusion to the interior wetland systems. Erosion of the canal banks also contributing to loss of mangrove and saltwort prairie habitat Water environment expected to be enhanced.
.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**0**	**5**	Majority of vegetation in all strata are appropriate for the habitats at the AA with minimal invasive exotic species present. Vegetation adjacent to canal increasing lost to the lateral erosion of the canal banks caused by excessive currents through failed dam. Vegetation and habitat will continue to deteriorate not only along canal banks but also within interior wetland systems due to the saltwater intrusion allowed by the failed dam. After construction is completed, the area will be planted and additional regrowth of wetland vegetation is expected to occurnaturally. Impacted area will be monitored and maintained exotic free.

Score=sum of above scores/30 (if uplands, divide by 20)	w/o pres or current	with
	0.500	**0.667**

Delta = [with-current]
0.167

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) = 1.14
Risk factor = 1.25

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.117

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Lake Ingraham - Post Plugs

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
541 / 651	E2USM, E2USN	Mitigation	**1,863 acres**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Shallow intertidal embayment separated from the marine waters of the Gulf of Mexico and Florida Bay by a narrow carbonate sand beach ridge and barrier beach and from the interior Cape Sable complex of mangrove wetlands and numerous shallow subtidal open water areas by an emergent calcium carbonate marl ridge. Manmade canals / ditches that have eroded considerably since excavation function as tidal inlets and connect to the Gulf of Mexico and Florida Bay. Several natural tidal creeks also provide connection between Lake Ingraham and Florida Bay

Assessment area description

Lake Ingraham is a shallow, intertidal embayment approximately 5 miles by 0.5 mile with the long axis trending northwest/southeast. Two man-made canals that were established in the early 20th century, the Lower East Cape/Ingraham Canals near the southeast end of the lake and the Middle Cape Canal near the northwest end of the lake, have widened considerably and function as tidal inlets enhancing tidal flow into and out of the lake. This has exacerbated carbonate mud sediment deposition, resulting is a conversion to a tidal mud flat. The extensive sedimentation resembles an emergent system at low tide allowing for the growth of abundant algal and cyanobacterial mats on the substrate and providing habitat for colonization by red mangrove seedlings. Prior to canal construction, Lake Ingraham was an isolated fresh to brackish lake.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cape Sable, Florida Bay, Gulf of Mexico, Marl Ridge, interior Cape Sable wetlands.	Relatively unique large intertidal embayment expierencing pronounced sedimentation resulting from the alteration of original hydrological regime by man-made canals / ditches. The lake is located within a mosaic of mangrove wetlands, tidal flats, and coastal prairie wetlands.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality.	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
West Indian manatee (*Trichechus manatus*), various wading birds (egrets, herons, ibis, etc.), double-crested cormorant (*Phalacrocorax auritus*), various gulls and terns, belted kingfisher (*Ceryle alcyon*), killdeer (*Charadrius vociferus*), variousshorebirds, sea turtles, diamonback terrapin (*Malaclemys terrapin*), ladyfish (*Elops saurus*), pinfish (*Lagodon rhomboides*), various game and forage fish, nurse shark (*Ginglymostoma cirratum*), blue crab (*Callinectes sapidus*), shrimp (*Penaeus* spp.), burrowing mollusks	Smalltooth sawfish (*Pristis pectinata*) - E, Atlantic green turtle (*Chelonia mydas mydas*) - E, Atlantic loggerhead turtle (*Caretta caretta caretta*) - T, Atlantic hawksbill turtle (*Eretmochelys imbricata imbricate*) - E, Kemp's ridley (*Lepidochelys kempii*) - E, leatherback sea turtle (*Dermochelys coriacea*) - E, American crocodile (Crocodylus acutus) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, brown pelican (*Pelecanus occidentalis*) - SSC, various wading birds - SSC, West Indian manatee (*Trichechus manatus*) - E

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Crocodile, ospreys, kingfishers, double-crested cormorants, unidentified gulls and terns, mullet, small unidentified fish.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 31, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Lake Ingraham - Post Plugs
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	Michael Breiner	July 31, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support		Habitats outside of the AA optimal for most wildlife (e.g., saltwater fish, wading birds, shore birds, burrowing mollusks, etc.) expected to occur in the area (however, extensive sedimentation that has occurred since the construction of the man-made canals / ditches has altered the the original shallow open water fresh to brackish lake to a irreglarly exposed tidal mud flat with dendritic drainage channels). Very little invasive exotic vegetation occurs in the vicinity of the AA.
w/o pres or current	**with**	Restoration of the plugs at the House and Slagle Ditches and Raulerson Canal will ameliorate impacts to wildlife in habitats outside the AA and increase the quality of habitat support outside the AA .
8	**9**	
.500(6)(b)Water Environment (n/a for uplands)		Man-made canals / ditches that have experienced dramatic lateral erosion thave dramatically altered the hydrological regime resulting in the conversion of a previously fresh to brackish lake to a tidally influenced system experiencing considerable sedimantation and siltation.
w/o pres or current	**with**	Restoration of the plugs will slow the rate of sediment deposition in Lake Ingraham contributed by the result of marsh collapse in the interior wetlands through the canals / ditches: and improve habitat for estuarine fish, invertebrates, and water birds.
8	**9**	
.500(6)(c)Community structure		
1. Vegetation and/or 2. Benthic Community		Expansive intertidal and subtidal area composed primarily of loose mineral matter (e.g., marl, mud, etc.) and blue-green mat-forming algae.
w/o pres or current	**with**	The restoration of the plugs will slow the rate of sediment deposition through the canals / ditches.
7	**8**	

Score=sum of above scores/30 (if uplands, divide by 20)	
w/o pres or current	**with**
0.767	**0.867**

Delta = [with-current]
0.100

If preservation as mitigation,	
Preservation adjustment factor =	
Adjusted mitigation delta =	

If mitigation	
Time lag (t-factor) =	**1.00**
Risk factor =	**1.25**

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas	
RFG = delta/(t-factor x risk) =	**0.080**

Form 62-345.900(2), F.A.C. [effective date 2/2/04]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Southern Interiors Wetlands - Existing Conditions

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
542 / 612	E2SS3U / E2USM	Mitigation	**55,894 acres**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
S-7 Watershed/Everglades	Class II	OFW, Everglades National Park

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Mosaic of freshwater, brackish, marine, and hypersaline wetland communities and open water unconsolidated bottom systems between Whitewater Bay and Florida Bay/Gulf of Mexico. The southern interior wetlands are separated from Florida Bay and the Gulf of Mexico by an emergent calcium carbonate marl ridge system on the south and west. Several man-made canals / ditches and natural creeks connect the interior wetlands to tidal waters through the marl ridge.

Assessment area description

The habitats on the mainland-side of the marl ridge are comprised primarily of a mosaic of mangrove wetland and numerous shallow bottom subtidal areas of open water. The southern interior of Cape Sable was a continuous marsh with isolated round lakes prior to the construction of the Raulereson, Homestead and East Cape Extension canals which, along with increasing tidal erosion occurring in larger tidal creeks, such as East Side Creek and Little Sable Creek, and 'natural ditches', i.e., House & Slagle Ditches, increased saltwater intrusion into the interior resulting in the degradation of these systems. These formerly freshwater southern interior marshes are separated from the intertidal habitats of Lake Ingraham by the marl ridge. In addition to periodic overtopping of the marl ridge, the interior marsh area receives saltwater input via the failed sheet piling dams in the East Side Creek and Raulerson Canal, and the compromised earthen dam plugs at the House and Slagle Ditch plug sites. Further north, the central and northern interior areas contain a mosaic of freshwater, brackish, marine, and hyper-saline flora although much of the interior is dominated by red mangrove interspersed with open water. In addition to mangroves, common flora in the central and northern interior areas includes cordgrass (*Spartina* spp.) and sawgrass (*Cladium jamaicense*).

Significant nearby features	**Uniqueness (considering the relative rarity in relation to the regional landscape.)**
Marl Ridge, Cape Sable, Florida Bay, Gulf of Mexico, Marl Ridge, Whitewater Bay	Relatively unique large intertidal embayment experiencing pronounced sedimentation resulting from the alteration of original hydrological regime by man-made canals. The lake is located within a mosaic of mangrove wetlands, tidal flats, and coastal prairie wetlands.
Functions	**Mitigation for previous permit/other historic use**
Wildlife and fisheries habitat, water quality	N/A
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Various wading birds (egrets, herons, ibis, etc.), belted kingfisher (*Ceryle alcyon*), various shorebirds, diamondback terrapin (*Malaclemys terrapin*), various game and forage fish, blue crab (*Callinectes sapidus*), shrimp (*Penaeus* spp.),	American crocodile (Crocodylus acutus) - T, wood stork (*Mycteria americana*) - E, osprey (*Pandion haleaetus*) - SSC, various wading birds - SSC,

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Michael Breiner	July 31, 2015

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Everglades National Park (ENP) Cape Sable Plugs Restoration - Phase II		Southern Interiors Wetlands - Existing Conditions
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	Michael Breiner	July 31, 2015

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	**w/o pres or current**	**with**
	8	8

Habitats outside of the AA optimal for most wildlife (e.g., game and forage fish, wading birds, shore birds, etc.) expected to occur in the area . Very little invasive exotic vegetation occurs in the vicinity of the AA. Backcountry nature of the area presents very little in the way of man-made barriers to wildlife. Impacts to wildlife are exhibited primarily by the degradation of the former brackish to fresh marsh wetlands by saline intrusion via man-made canals and tidal creeks. The quality of the interior wetlands are adversely affected by the continued intrusion of tidal waters through the failed dam at the Raulerson Canal, and the House and Slagle Ditches.

Restoration of the dam at RC and the potential breeches at House and Slagle will ameliorate impacts to wildlife in habitats outside the AA and increase the quality of habitat support outside the AA.

.500(6)(b)Water Environment (n/a for uplands)	**w/o pres or current**	**with**
	8	9

The man-made canals and tidal creeks that have experienced lateral erosion and failed dams have altered the hydrological regime resulting in the conversion of a previously fresh to brackish wetlands to a tidally influenced system experiencing degradation of the wetland communities.

Restoration of the dams Restoration of the will inhibit the rate of marsh collapse in the interior wetlands through the canal and ditches and improve habitat for fish and wildlife.

.500(6)(c)Community structure **1. Vegetation and/or** **2. Benthic Community**	**w/o pres or current**	**with**
	7	8

The habitats in the southern interior wetlands on the mainland-side of the marl ridge are comprised primarily of a mosaic of mangrove wetland and numerous shallow bottom subtidal areas of open water that were formerly continuous marsh with isolated round lakes prior to the construction of the Raulerson Canal, Homestead and East Cape Extension canals which increased saltwater intrusion to the interior resulting in marsh collapse. These habitats transition northward to a mosaic of freshwater, brackish, marine, and hyper-saline wetland systems in the central and northern interior areas.

Restoration of the plugs will inhibit the rate of marsh collapse in the interior wetlands.

Score=sum of above scores/30 (if uplands, divide by 20)	
w/o pres or current	**with**
0.767	0.833

Delta = [with-current]
0.066

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) = 1
Risk factor = 1.25

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.053