

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 822 82440 MACROPHYTE ID: 11884 LATITUDE: N 30.552917
 COUNTY: Washington (Vernon) STORET #: 32010045 LONGITUDE: W 85.68175
 DATE: 06/16/2021 TIME: 10:30 - 12:06 - 13:45 SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Dunford Lake WBID: 526A
 FIELD ID/NAME: DUNFORDREF LAKE SIZE: 190 RQ: 2021-06-14-53
 LIMBS ID: 2255625

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) :					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)															
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)	LDI: <u>1.87</u>												
☒	☒	☒	☒	☒	☐	☐	☐	Land Use Source & Year: <u>SB10 2016</u>												
Local Watershed Erosion (select one) : ☐ None ☐ Slight ☐ Moderate ☐ Heavy					Artificially Impounded ☐ Yes ☒ No															
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy																				
STORMWATER INPUTS	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation		Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place		Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place													
<u>18</u>	20	19	<u>18</u>	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
LAKESIDE ALTERATIONS	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected)		Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected)		Many structures, roads or other human disturbance visible (50%-70% lakeside affected)		Highly developed or disturbed (>70% of lakeside affected)													
<u>15</u>	20	19	18	17	16	<u>15</u>	14	13	12	11	10	9	8	7	6	5	4	3	2	1
BUFFER ZONE	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18m buffer		89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer		< 29% of shoreline with >18m buffer													
<u>18</u>	20	19	<u>18</u>	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water: Nutrient Sample Taken? ☒ Yes ☐ No Preserved? ☒ Yes ☐ No pH<2 ☐ No Color Sample Taken? ☒ Yes ☐ No Lot # _____ Exp. Date: _____ Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☐ Normal ☒ High					Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____				
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>30.5</u> <u>4.82</u> <u>6.16</u> <u>82.2</u> <u>14.0</u> <u>0.00</u> Mid-Depth: <u>2.0</u> <u>29.3</u> <u>4.68</u> <u>1.58</u> <u>20.4</u> <u>15.1</u> <u>0.01</u> Bottom: <u>3.0</u> <u>26.4</u> <u>4.57</u> <u>0.24</u> <u>3.0</u> <u>15.9</u> <u>0.01</u> Meter ID: <u>150 155477</u>					Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____				
Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid					Color: ☒ Clear ☒ Tannic ☐ Green SECCHI (M) <u>2.9</u> Total Station Depth (M) <u>3.5</u> VOB <u>3.5</u> ☒ FB				

Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☒ Vegetated ☒ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): _____					Sediment Odors: ☒ Normal ☐ Other (Specify): _____ ☒ Anaerobic				
Biological Communities: LVI Conducted? ☒ Yes ☐ No Phytoplankton Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☒ No Lot #: _____ Exp Date: _____ Algal Bloom/Algal ID Sample Taken? Yes No Active Vegetation Mgmt? ☐ Yes ☒ No ☐ Don't Know					Abundance: Absent Rare Common Abundant Periphyton ☐ ☐ ☐ ☒ Nuisance Plants ☐ ☐ ☒ ☐ Submersed Plants ☐ ☐ ☐ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐				
Additional Notes: <u>Thick vegetation kept us from shoreline.</u>									

Weather Conditions: <u>Sunny, HOT 90's. Partly cloudy.</u>									
SAMPLING TEAM: Frank Butera, <u>Hank Schuler</u>					SIGNATURE: <u>[Signature]</u>			DATE: <u>6/16/2021</u>	

DEP Form FD 9000-6: Lake Habitat Assessment Field Sheet

STORET STATION NUMBER: 32010045	DATE (M/D/Y) 06/16/2024	LAKE NAME DUNFORD LAKE		FIELD ID / NAME DUNFORDREF	
WBID: 526A	COUNTY: WASHINGTON	SAMPLING LOCATION/DESCRIPTION: PARADISE LAKES HOA / REFERENCE LAKES		LAKE SIZE: 190	
PARAMETER	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates	Surface water inflow present, but flow is rare, moderate to long water residence time		Surface water inflow and outflow present (or outflow only), sometimes with visible flow, short water residence time	
HYDROLOGY	☒	☐		☐	
Color	Very clear, uncolored water (benthic sampling appropriate) ☒	Water somewhat tannin stained (benthic sampling appropriate) ☐		Dark, discolored water (water color 20 PCU or higher) ☐	
	Optimal	Suboptimal		Marginal	
Secchi	Secchi > 3 m Or VOB	3 2.6 2.2 1.8 1.4 15 14 13 12 11		1.0 0.9 0.8 0.7 0.6 10 9 8 7 6	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants		Large masses (21%-40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Stormwater Inputs	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck, SAV may be present	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present		Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Lakeside Adverse Human Alternations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected		Many structures, roads or other human disturbance visible (50%-70%) lakeside affected	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Upland Buffer Zone	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Adverse Watershed Land Use	Score the potential effects from adverse human land uses, based on a continuum of amount and type, with least to most adverse as follows: Native vegetation, Silviculture, Pasture or Citrus, Low Density Residential, Row Crops, Commercial, High Density Residential, Urban, Industrial				
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	

TOTAL SCORE 113	COMMENTS: New construction several places on lake to Edge
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ANALYSIS DATE: 6/16/2024	ANALYST: F. BUTERA	SIGNATURE: <i>[Signature]</i>
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SBIO Sample ID: 32444	HA ID: 16847	QC✓: _____
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DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Dunford Lake					County: Washington					Date: 6/16/2021				
Analyst: F. Butera					Signature: <i>[Signature]</i>					STORET: 32010045				
Except where noted as "sp." species level identification required. *Genera that may require lab verification*										Lake units sampled (circle one group):				
Plants in bold = FLEPPC invasive exotic.										1, 4, 7, 10 2, 5, 8, 11				
It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa.										3, 6, 9, 12				
SBIO ID 82444	1	4	7	10	Collect ed? (✓)	Macro ID 11884	1	4	7	10	Collect ed? (✓)			
SPECIES						SPECIES								
Acer rubrum						Habenaria repens								
Alternanthera philoxeroides						Hydrilla verticillata								
Andropogon sp.						Hydrocotyle sp.								
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma								
Baccharis sp.						*Hypericum fasciculatum								
Bacopa caroliniana						*Hypericum hypericoides								
Bacopa monnieri						*Hypericum myrtifolium								
Bidens laevis						Ilex cassine								
Bidens mitis						Ipomoea aquatica								
Blechnum serrulatum						Ipomoea sagittata								
Boehmeria cylindrica						Itea virginica								
Brasenia schreberi						Juncus effusus								
Cabomba caroliniana						*Juncus marginatus								
Casuarina equisetifolia						*Juncus megacephalus								
Centella asiatica						Juncus repens								
Cephalanthus occidentalis						*Juncus scirpoides								
Ceratophyllum demersum						Lachnanthes caroliniana								
Chara sp.						Leersia hexandra								
Cladium jamaicense						Landoltia punctata (Spiro. punctata)								
Cliftonia monophylla						Lemna sp.								
Colocasia esculenta						Leucothoe racemosa (E. racemosa)								
*Commelina						Limnium spongia								
Crinum americanum						Limnophila sessiliflora								
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua								
Cyperus articulatus						*Ludwigia arcuata								
Cyperus haspan						*Ludwigia leptocarpa								
*Cyperus lecontei						*Ludwigia linearis								
*Cyperus polystachyos						*Ludwigia octovalvis								
*Cyperus odoratus						*Ludwigia peruviana								
*Cyperus surinamensis						*Ludwigia repens								
Cyrtilla racemiflora						*Ludwigia								
Decodon verticillatus						Luziola fluitans (H. carolinensis)								
Diodia virginiana						Lyonia lucida								
*Echinochloa crus-galli						Magnolia virginiana								
*Echinochloa muricatum						Mayaca fluviatilis								
Echinochloa walteri						Melaleuca quinquenervia								
Eclipta prostrata (E. alba)						Micranthemum glomeratum								
Egeria densa						Micranthemum umbrosum								
Eichhornia crassipes						Mikania scandens								
*Eleocharis baldwinii						Mimosa pigra								
*Eleocharis						Myrica cerifera								
Eleocharis cellulosa						<i>Cyperus</i>								
Eleocharis equisetoides						<i>Eleocharis</i>								
Eleocharis interstincta						<i>Green Algae</i>								
*Eriocaulon compressum														
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea														
Gordonia lasianthus														
RQ-2021-06-14-53														
LIMS ID: 2255625														

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

SPECIES					1	4	7	10	Collect ed? (✓)
Myriophyllum aquaticum									
*Myriophyllum heterophyllum									
*Myriophyllum laxum									
*Myriophyllum pinnatum									
Myriophyllum spicatum									
*Najas filifolia									
*Najas guadalupensis									
*Najas minor									
Nelumbo lutea									
Nitella spp.									
Nuphar sp.									
Nymphaea odorata									
Nymphoides aquatica									
Nyssa sylvatica var. biflora									
Orontium aquaticum									
Osmunda cinnamomea									
Osmunda regalis									
Panicum hemitomon									
Panicum repens									
Paspalidium geminatum									
*Paspalum repens									
Paspalum urvillei									
Peltandra sp.									
Persea sp.									
Pennisetum purpureum									
Phragmites australis									
Pinus elliotii									
Pistia stratioides									
Pluchea sp.									
*Polygonum glabrum (densiflorum)									
*Polygonum hydropiperoides									
*Polygonum punctatum									
*Polygonum									
Pontederia cordata									
*Potamogeton diversifolius									
*Potamogeton illinoensis									
*Potamogeton pusillus									
*Potamogeton pectinatus (Stuck. pectinatus)									
Proserpinaca pectinata									
*Rhexia									
*Rhynchospora corniculata									
*Rhynchospora inundata									
Rhynchospora tracyi									
Ricciocarpus natans									
Sabal palmetto									
Sacciolepis striata									
*Sagittaria filiformis									
*Sagittaria graminea									
*Sagittaria isoetiformis									
Sagittaria lancifolia									
Sagittaria latifolia									
<i>Sagittaria sp.</i>									

Waterbody: Dunford Lake Storet: 32010045

Form ID 5000 27: LAKE VEGETATION

Date: 6/26/21

SBIO ID 62440

Macro ID 11884

SPECIES					1	4	7	10	Collect ed? (✓)
Salix caroliniana									
Salvinia minima									
Sambucus canadensis									
Sapium sebiferum									
Saururus cernuus									
Schinus terebinthifolius									
*Schoenoplectus californicus									
*Schoenoplectus pungens									
*Schoenoplectus tabernaemontani									
Scirpus cubensis (Oxycaryon cubense)									
Scirpus cyperinus									
*Sesbania									
Solidago sp.									
Sparganium americanum									
Spartina bakeri									
Spirodela polyrhiza									
Taxodium sp.									
Thalia geniculata									
Thelypteris palustris									
Triadenum virginicum									
Typha sp.									
Urochloa mutica (Brachiaria mutica)									
*Utricularia gibba (U. biflora)									
*Utricularia floridana									
*Utricularia foliosa									
*Utricularia inflata									
*Utricularia purpurea									
*Utricularia cornuta									
*Utricularia radiata									
Vallisneria americana									
*Websteria confervoides									
Wedelia trilobata (Sphag. trilobata)									
Wolffiella spp.									
Woodwardia virginica									

Station: Dunford Lake
 GPS Dec. 30.552917 x -85.68175
 Storet: 32010045 WBID 526A
 Sample ID: 82440 Macro ID: 11884
 RQ-2021-06-14-53

Sampled : 07/21/2021
 Sampled By: F.Butera, H. Schmuki
 Location: Santa Rosa Beach, Walton.
 Receiving Waters: St. Andrews's Bay
 LIMS ID: 2255625

	Taxa	1	4	7	10	Coll.	Verified
1	<i>Acer rubrum</i>			1			
2	<i>Bacopa caroliniana</i>	1	1	1	1		
3	<i>Brasenia schreberi</i>	1		1	1		
4	<i>Cephalanthus occidentalis</i>	1	1	1			
5	<i>Clethra alnifolia</i>	1	1	1			
6	<i>Cliftonia monophylla</i>		1	1			
7	<i>Cyrilla racemiflora</i>	1	1	1	1		
8	<i>Eleocharis baldwinii</i>			1			
9	<i>Eupatorium capillifolium</i>			1			
10	<i>Fuirena scirpoidea</i>			1			
11	<i>Hydrocotyle</i> sp.			1			
12	<i>Hypericum fasciculatum</i>	1	1	1	1		
13	<i>Liquidambar styraciflua</i>	1		1			
14	<i>Magnolia virginiana</i>		1	1			
15	<i>Myrica cerifera</i>			1			
16	<i>Myriophyllum heterophyllum</i>	1	1	1	1	Y	FB
17	<i>Nuphar</i> sp.	1			1		
18	<i>Nymphaea odorata</i>	1	1	1	1		
19	<i>Nymphoides aquatica</i>			1	1		
20	<i>Nyssa sylvatica</i> var. <i>biflora</i>	1	1				
21	<i>Panicum hemitomon</i>	1	1	1	1		
22	<i>Panicum repens</i>			1			
23	<i>Pontederia cordata</i>	1	1	1	1		
24	<i>Sagittaria isoetiformis</i>			1			
25	<i>Taxodium</i> sp.	1	1	1	1		
26	<i>Utricularia floridana</i>	D	D	D	D		
27	<i>Vitis</i> sp.	1	1	1	1		
28	<i>Websteria confervoides</i>	1	1	1	1		
Taxa per section		17	16	26	14	Herb. Taxa	18
Exotic Present		0	0	1	0	Woody Taxa	10
Avg. taxa per section		18	Exotics per Section: 0.25			Ferns	0
sections with exotics		1				Macro Algae	0
Exotic Taxa		1				Total Taxa	28

Seen but not counted (Not approp. For LVI or Not in surveyed segment)

Taxon	1	4	7	10
Filamentous green algae	1	1	1	1

Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	95	95	85	95	92.5
Native Percentage	100	100	96.15	100	99.04
FLEPPC Pct (Exotic)	0	0	3.85	0	0.96
Total Taxa	17	16	26	14	18.25
C of C over 7.0	29.14	31.25	23.08	28.57	28.08
Dominant Taxa	Utricularia floridana	Utricularia floridana	Utricularia floridana	Utricularia floridana	Utricularia floridana
C of C Dominant	6.34	6.34	6.34	6.34	6.34

DEP-SOP-001/01
FS 7000 General Biological Community Sampling

Form FD 9000-2: COMPOSITE LAKE SAMPLING SHEET (< 1000 ACRES)

Date: <u>6/16/2021</u>		Name of Lake: <u>Dunford Lake</u>		Gear used: <u>PONAR</u>		EKMAN	OTHER
Comments:							
Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)		
1		<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>	7		<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>		
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV		
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV		
4		<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>	10*	3.5	<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>		
5		sand, silt/clay, CPOM, muck, SAV	11		<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>		
6		<u>sand</u> , <u>silt/clay</u> , <u>CPOM</u> , muck, <u>SAV</u>	12		sand, silt/clay, CPOM, muck, SAV		

CPOM = coarse particulate organic matter; SAV = submerged aquatic vegetation

* Station

Storet 32010045
WBID 526A

Field ID DUNFORDREF

Project. Reference Lakes

SBIO ID: 82440

Paste map here and show location of each dredge drop and where water chemistry parameters were collected.

Photo Log

Win ID / Storet: 32010045

Station Name: Dunford Lake Reference

Date: 06/16/2024

Samplers: Frank Butera, H. Schomuk

- 1 Section 7
- 2 Section 9? Prop
- 3 Section 9 - Clearing/Bank
- 4 Sect 10 - Clearing
- 5 Sect. 10 - Typical
- 6 Station N (10)
- 7 Station E (10)
- 8 Station S (10)
- 9 Station W (10)
- 10 Sect. 3 - 2 pass
- 11 Section 1
- 12 Section 4
- 13 Section 5 - Clearing
- 14
- 15
- 16
- 17

Notes.

Dunford Lake

Historic Storet 32010045

Receiving Water No Outlet
 Basin / WBID St. Andrews's Bay / 662
 City, County Vernon, Washington County
 Lake Acreage 190.41
 Circumference (M) 7679
 Seg. Length (M) 639.9166667

Section	Location	Dec Deg.
	32010045	30.552917 x 85.68175
1	A	30.560473 x -85.680142
	B	30.556382 x -85.680473
4	D	30.554058 x -85.676125
	E	30.554083 x -85.674074
4	N	30.552531 x -85.677546
	O	30.550398 x -85.677442
7	G	30.547996 x -85.674491
	H	30.546009 x -85.679098
7	P	30.548620 x -85.676226
	Q	30.547593 x -85.677981
10	J	30.551318 x -85.683097
	K	30.554234 x -85.683353
10	S	30.551925 x -85.679448
	M	30.554104 x -85.679039

Circumference		Segment length Island
Perimeter	5784	270.7142857
Island	1895	
Total	7679	Segment length shore opp. Island.
		403
Acreage		
Perimeter	213.86	Segment length one shore
Island	23.45	640
Total	190.41	

32010045_Dunford Lk
Vernon, Washington Co.
Ref Lakes. WBID 662
190 Acres 640 m Seg.

