## DATA FORM Routine Wetland Delineation

(1987 COE Manual)

Project Site: 2Rivers Pipeline	Droicet			<b></b>		QC IE	Control of the Contro		
Project Site: 2Rivers Pipeline Applicant/Owner: Equilon	Project	· · · · · · · · · · · · · · · · · · ·			-		6/22/2001		
Investigator(s): Benchmark Ecolo		County: Fayette							
Berichmark Ecolo		State:	S						
Do Normal Circumstances Exists the site significantly disturbed	ite? Yes		No	<u> </u>	Community ID:	PE			
Is the area a potential problem a	(atypical Situati res?	Yes		No	Х	Transect ID:	***************************************	2205	
(If needed, explain in Remarks spaces)	162	لــــا	No	Х	Plot ID:	WPT 1	74		
VEGETATION				<del>(**************</del>					
Dominant Plant Species	Stratum	Indicator	Domir	nant I	Plant	Species	Stratum	Indicator	
1. Apocynum cannabinum	Н	FAC	9.		- idiit	Оросісэ	Stratum	muicator	
2. Salix nigra	S	OBL	10.				<b>†</b>		
3. Polygonum lapathifolium	Н	OBL	11.		***************************************				
4. Ludwigia peploides	Н	OBL	12.						
5.			13.						
6.			14.		************		1	······································	
7.			15.				<b>†</b>		
8.			16.						
Percent of Dominant Species that	t are OBL, i	FACW, OR	FAC (	exclu	idina	FAC-):	100%		
HYDROLOGY  X Recorded Data (Describe in	Remarks):		Motlar	od Liv	drok				
Stream, Lake, or Tide			i e			ogy Indicators:			
X Aerial Photographs	Cauge		۲	rima	-	dicators:			
X Other			inundated						
No Recorded Data Available			X Saturated in Upper 12 Inches						
No Neodided Data Available	,		Water Marks						
Field Observations:				_		Drift Lines		,	
iold Observations.						Sediment De	-		
Depth of Surface Water:	0-4	(in.)			X	Drainage Pa	tterns in W	etlands/	
Depth to Free Water in Pit:		(:-)	S	econ	dary	Indicators:			
Sopurior ree vvaler in Pit;		(in.)		_		Oxidized Ro		S (upper12")	
Depth to Saturated Soil:		,		_		Water Staine			
Septifito Saturated Soil:		(in.)		_	X	Local Soil Su	ırvey Data		
						Other (Expla	in in Rema	arks)	
Remarks: Other Recorded Data: (	JSGS Quar	drangle, NV	VI Data	a, Soi	il Sur	vey.			
						•		ı	
	,							į	
								ļ	
								l	

Benchmark Ecology Services Inc. QC ID: 15-2 SOILS Ρ Drainage Class: Map Unit Name Field Observations (Series and Phase): Wakeland silt loam Frequently Flooded Yes No Confirmed Map Type? Aeric Flavaquents Taxonomy (subgroup): Profile Description Texture, Concretions, Mottle Color Mottle Matrix Color Horizon Depth Abundance/Contrast Structure, ect. (Munsell moist) (Munsell Moist) (inches) Hydric Soil Indicators Concretions Histisol High Organic Content in Surface Layer Sandy Soils Histic Epipedon Organic Streaking in Sandy Soils Sulfidic Odor X Listed on Hydric Soils List Aquic Moisture Regime X Listed on National Hydric Soils List X **Reducing Conditions** Other (Explain in Remarks) Gleyed or Low-Chroma Colors Remarks: No pit, inundated. WETLAND DETERMINATION No Is Sample Point Hydrophytic Vegetation Present? Yes X No Within a Wetland? No Wetland Hydrology Present? Yes X Yes X No Hydric Soil Present? Remarks: Part in open water. Western 150-151. South 152-159. East 160-165. Marathon 149. 1700,1701 Photos:

## DATA FORM Routine Wetland Delineation

(1987 COE Manual)

Drainet Cita					مرين ريايا كالا	QC ID	): 22-1			
Project Site: 2Rivers Pipeline F	roject						6/22/2001			
Applicant/Owner: Equilon		County:	e							
Investigator(s): Benchmark Ecologi		State:	Illinoi	S						
Do Normal Circumstances Exist			X	No		Community ID:		RF		
Is the site significantly disturbed (at	ypical situati	ion)? Yes		No	Х	Transect ID:		2205		
Is the area a potential problem are	Yes		No		Plot ID:	WPT 1				
(If needed, explain in Remarks spaces)				,			AALII	13		
VEGETATION										
Dominant Plant Species	Stratum	Indicator	Domir	nant l	Plant	Species	Stratum	Indicator		
1. Acer saccharinum	T	FACW	9.				Otratain	maicator		
2. Acer saccharinum	S	FACW	10.							
3. Fraxinus pennsylvanica	T	FACW	11.			······································				
4. Fraxinus pennsylvanica	S	FACW	12.							
5. Phalaris arundinacea	Н	FACW+	13.							
6.			14.							
7.			15.				1			
8.	<u> </u>		16.							
Percent of Dominant Species that a Remarks: Mixed forest community							100%			
HYDROLOGY  X Recorded Data (Describe in R										
	•					ogy Indicators:				
Stream, Lake, or Tide G	auge		Primary Indicators:							
X Aerial Photographs X Other			Inundated							
			X Saturated in Upper 12 Inches							
No Recorded Data Available			X Water Marks							
Field Observations:	·········									
rield Observations:				_	<u> </u>					
Donth of Confess Marks				_		C Drainage Pa	tterns in V	<b>Vetlands</b>		
Depth of Surface Water:	-	(in.)								
Donth to Fee a Miletania Bill			S	Secon	dary	Indicators:				
Depth to Free Water in Pit:	-	(in.)		_		Oxidized Ro	ot Channe	S (upper12")		
Do-16 to 0.1	_			_	X	Water Staine	ed Leaves			
Depth to Saturated Soil:	2	(in.)		-	X	Local Soil St	irvey Data			
				_		Other (Expla	in in Rema	arks)		
Remarks: Other Recorded Data: U	SGS Qua	drangle, NV	VI Data	a, So	il Sui	vev. Slightly undi	ulating ma	v include		
narrow (<10m) strips of ι	ıpland, pe	erpendicular	to pip	eline		,		iy moludo		

Benchmark Ecology Services Inc.

SOILS						QC ID: 22-2					
	Nama				Drainage Class	s: P					
Map Unit		ions									
,		Wakeland silt loa  p): Aeric Flava			Confirmed Mar	Type? Yes X No					
	y (subgrou	p). Aeric i lava	quents								
Profile De		Matrix Color	Mottle Color	Mottle		Texture, Concretions,					
Depth (inches)	Horizon	(Munsell Moist)	(Munsell moist)			Structure, ect.					
	1.	10 YR 4/1				Silt Loam					
0-10	A		0.5.10.514	Fau mad	orata	Silt Loam					
10-18	В	10 YR 4/1	2.5 YR 5/4	Few mod	erate	Siit Loain					
	<del>                                     </del>										
Uvdrig Sa	 oil Indicator	<u>l</u>	1								
rayunc St	Histisol				cretions						
	Histic Ep	•		High Organic Content in Surface Layer Sandy Soils							
	Sulfidic				anic Streaking in S						
X		pisture Regime			ed on Hydric Soils ed on National Hy						
		g Conditions or Low-Chroma Co	lors —		er (Explain in Ren						
X	_ ′	to alfa alfa dipyri			(	,					
Remarks:	Negative	to ana ana dipyn	uii.								
						•					
	_										
WETLA	ND DETER	RMINATION									
ay considera esta for the side of the section of th		day along the agree of the day, help of a first of the physical difference of the second state of the seco	Yes x	No	Is Sample Po	int					
9		on Present?	**************************************	No	Within a Wetl	and the state of t					
1 .	Hydrology F		The second secon	No	VVIIIIII Z VVCI	Total Control					
E -	oil Present?		bearing and		170						
Remarks	: West 16	0-165. East 162-	168. C/L Marath	10n 166,169	-1/2.						
de la constante de la constant											
		Photos: 170	?								
		Photos: 170	۷.								

## DATA FORM Routine Wetland Delineation

(1987 COE Manual)

Project Sito: 25 5:-						QC IE	): 25-1		
Project Site: 2Rivers Pipeline P Applicant/Owner: Equilon	roject						6/23/2001		
<b>3</b>	County: Fayette								
Investigator(s): Benchmark Ecologic	State:	Illinois							
Do Normal Circumstances Exist			X	No		Community ID:		UF	
Is the site significantly disturbed (at	pical situati	ion)? Yes	L	No	×	Transect ID:			
Is the area a potential problem area	Yes		No	X	Plot ID:	62301 WPT 186			
(If needed, explain in Remarks spaces)							441 1 11	00	
VEGETATION									
Dominant Plant Species	Stratum	Indicator	Domi	nant F	Plant	Species	Stratum	Indicator	
1. Acer saccharinum	T	FACW	9.				Otratain	indicator	
2. Ulmus rubra	T	FAC	10.						
3. Morus rubra	T	FAC-	11.				<b></b>		
4. Juglans nigra	Т	FACU	12.						
5. Rubus occidentalis		NI	13.						
6. Toxicodendron radicans	V	FAC+	14.						
7. 8.	· · · · · · · · · · · · · · · · · · ·		15.						
			16.						
Percent of Dominant Species that a Remarks:	re OBL, I	FACW, OR	FAC (	(exclu	ding	FAC-):	50%		
HYDROLOGY  X Recorded Data (Describe in R	emarks).		Motto	nd Us	deal				
Stream, Lake, or Tide G				_		ogy Indicators:			
X Aerial Photographs	auge		Primary Indicators:						
X Other			Inundated						
No Recorded Data Available			Saturated in Upper 12 Inches						
resolute Buta Available			Water Marks						
Field Observations:						Drift Lines			
Training Specifications.				_		Sediment De	•		
Depth of Surface Water:	_	(in.)				Drainage Pa	tterns in W	/etlands	
			5	Secon	dary	Indicators:			
Depth to Free Water in Pit:	-	(in.)				Oxidized Ro	ot Channe	S (upper12")	
<b>-</b>						Water Staine	ed Leaves	l	
Depth to Saturated Soil:		(in.)				Local Soil Su	ırvey Data	İ	
						Other (Expla	in in Rema		
Remarks: Other Recorded Data: US	SGS Qua	drangle, N\	VI Dat	a, So	l Su	vev. No pit. Stee	n slope		
		_		•		, , , , , , , , , , , , , , , , , , ,	р оюро.		
								j	

Benchmark Ecology Services Inc.

SOILS						QC ID: 25-2
Map Unit	Name				Drainage Class	: <u>P</u>
•		Titus silty clay lo	am Frequently Flo	ooded	Field Observati	ons
	y (subgrou				Confirmed Map	Type? Yes No
Profile De	escription					
Depth	Horizon	Matrix Color	Mottle Color	Mottle	- /O-mt-mat	Texture, Concretions, Structure, ect.
(inches)		(Munsell Moist)	(Munsell moist)	Abundand	ce/Contrast	Structure, ect.
				ļ		
	<del>                                     </del>					
			<del>                                     </del>			
				ļ		
Hydric So	oil Indicato	rs				
	Histisol				cretions	in Curface Layer Sandy Sails
	Histic Ep				anic Streaking in S	in Surface Layer Sandy Soils Sandy Soils
<u> </u>	Sulfidic (	oisture Regime			ed on Hydric Soils	
		g Conditions			ed on National Hyd	
		or Low-Chroma Co			er (Explain in Rem	
Remarks:		teep slope.				:
remarks.	140 pit, 5	coop slope.				· · · · · · · · · · · · · · · · · · ·
WETLA	ND DETE	RMINATION				
Hydrophy	vtic Vegetat	ion Present?	Yes N	o x	Is Sample Poir	nt
	Hydrology i		Yes N	0 X	Within a Wetla	and? Yes No x
i i	oil Present?		Yes x N	0		
L	: Steep b					
		Photos:				
1		1				The second secon

## **DATA FORM Routine Wetland Delineation**

(1987 COE Manual)

QC ID:

Date

26-1

6/23/2001

Applicant/Owner: Fauilon	o i Toject		·				6/23/2001		
Applicant/Owner: Equilon						County: Fayette			
Investigator(s): Benchmark Ecological Services, Inc. BD,						State:	Illinoi	S	
Do Normal Circumstances Ex			х	No		Community ID:		UF	
Is the site significantly disturbed		No	х	Transect ID:		2301			
Is the area a potential problem a	rea?	Yes		No	×	Plot ID:	WPT 1		
(If needed, explain in Remarks spaces	}		L				VVPII	91	
VEGETATION		A SAME OF SAME OF SAME					the state of the s	The state of the s	
Dominant Plant Species	Stratum	Indicator	Domir	ant f	Plant	Species	Stratum	Indicator	
1. Acer saccharinum	T	FACW	9.			<u> </u>	Otratum	mulcator	
2. Quercus palustris	T	FACW	10.				<del> </del>		
3. Toxicodendron radicans	S	FAC+	11.				<del>                                     </del>		
4. Toxicodendron radicans	V	FAC+	12.				-		
5. Ampelopsis arborea	S	FACW	13.						
6.			14.		**********				
7.			15.				<del> </del>		
8.			16.				<del>                                     </del>		
Percent of Dominant Species tha	at are OBL, f	ACW, OR	FAC (	exclu	dina	FAC-)	100%		
JVDBOLOOV			<del> </del>						
HYDROLOGY									
X Recorded Data (Describe in			Wetlar	nd Hy	drolo	gy Indicators:			
Stream, Lake, or Tide	Gauge	İ	F	rima	ry Ind	dicators:			
X Aerial Photographs			Inundated						
X Other			Saturated in Upper 12 Inches						
No Recorded Data Availabl	е			_		Water Marks			
				_		Drift Lines	•		
ield Observations:				_		Sediment De	nneite		
						Drainage Pa		(adla - da	
Pepth of Surface Water:	0	(in.)		_		Diamage Fa	menis in M	retiands	
	<del></del>	` ′	s	econ	darv	Indicators:		į	
epth to Free Water in Pit:	NA .	(in.)	_		-a.,	Oxidized Ro	nt Channa	S /	
		` ′			x			(upper (2)	
epth to Saturated Soil:	NA (	(in.)		_		<del></del>			
		(")		_		Local Soil Su			
emarks: Other Recorded Date:	LICCC O	1 1 10	=			Other (Expla	in in Rema	arks)	
emarks: Other Recorded Data: quickly.	USGS Quad	arangie, NV	VI Data	a, Soi	l Sur	vey. >3% slope, s	should drai	n	
quiony.									
					بسينيت				

Project Site:

2Rivers Pipeline Project

Benchmark Ecology Services Inc.

SOILS							QC ID: 26-2			
Map Unit	Name	,				Drainage Class:	P P			
		Titus silty clay lo	am Frequent	ly Flo	oded	Field Observation	ons			
	y (subgrou					Confirmed Map	Type? Yes	No X		
Profile De	escription									
Depth	Horizon	Matrix Color	Mottle Color		Mottle	n/Contract	Texture, Concre	tions,		
(inches)		(Munsell Moist)	(Munsell mo			e/Contrast	Structure, ect.			
1-18	Α	2.5 YR 7/1	7.5 YR 5/8		many, dis	tinct	Sandy loam			
0-1	0						Organic layer			
	<del> </del>		<u> </u>							
	1									
					-					
Hydric So	oil Indicator	8			Con	cretions				
	Histisol	-adan	-				in Surface Laver San	dy Soils		
	Histic Epi		<u> </u>	High Organic Content in Surface Layer Sandy Soils Organic Streaking in Sandy Soils						
		isture Regime	<u> </u>	Listed on Hydric Soils List						
		Conditions	-	Listed on National Hydric Soils List						
x		r Low-Chroma Co	lors	Other (Explain in Remarks)						
Remarks:			<b>-</b>	in tex	ture, not i	natching soil sur	vey munsell colors			
	Mogunio		• • • • • • • • • • • • • • • • • • • •		,	J		: •		
The state of the s							-			
and the Control of th										
		•								
WETLA	ND DETER	MINATION		garie di spiese y del						
Hydrophy	rtic Vegetatio	on Present?	Yes x	No		Is Sample Poin	nt			
	Hydrology P		Yes	No	X	Within a Wetla	nd? Yes	No x		
3	oil Present?		Yes		X		<del></del>	The Company of the Co		
Remarks										
Temarks	•									
		Photos: 1705	,1706							
		_								
				elektronen in Allen en ere						

## DATA FORM Routine Wetland Delineation

(1987 COE Manual)

Project Site: 2Rivers Pipelii	ne Proiect					QC ID: 27-1			
Applicant/Owner: Equilon					Date	6/23/200			
Investigator(s): Benchmark Eco	County: Fayette								
			BD,	<u>INH</u>	State:	Illino	ois		
Do Normal Circumstances Ex	ist on the s	ite? Ye:		No	Community	ID:	RE		
Is the site significantly disturbed	I (atypical situat			No x	Transect ID:		32301		
Is the area a potential problem (If needed, explain in Remarks spaces	area?	Yes	s	No x	Plot ID:	WPT			
VEGETATION									
Dominant Plant Species	Stratum	Indicator	Desir						
. Polygonum pensylvanicum	H	OBL	9.	int Plant	Species	Stratum	Indicate		
2. Rumex crispus	<del>-   ii</del> -	FAC+	10.						
. Phalaris arundinacea	H	FACW+	11.						
. Salix nigra	S	OBL	12.						
. Acer saccharinum	<del>                                     </del>	FACW	13.						
. Acer saccharinum	S	FACW	14.						
		1 AOVV	15.						
•			46						
ercent of Dominant Species the	at are OBL	ACIM OF	[10.	1					
emarks: Shallow stream bank (few trees).	with amount	-1-1	· · · · ·			100%	)		
YDROLOGY									
X Recorded Data (Describe in	n Remarks):		Wetland	Hydrolo	gy Indicators:				
Stream, Lake, or Tide	Gauge		Pri	mary inc	licators:				
X Aerial Photographs						_			
X Other			x Inundated X Saturated in Upper 12 Inches						
No Recorded Data Available	е	İ		X	Saturated	in Upper 12	Inches		
		1		X					
eld Observations:					Drift Line				
						t Deposits			
pth of Surface Water:	<b>0-6</b> (	in.)			Drainage	Patterns in W	/etlands		
pth to Free Water in Pit:	4.4		Sec	ondary i	ndicators:				
Pur to rice avaler in bit.	(	in.)				Root Channel	S (upper12*		
pth to Saturated Soil:	•				Water Sta	ained Leaves	, ,,,		
pur to Catarated Soil.	(i	n.)		X		Survey Data			
		ļ			Other (F				
marks: Other Recorded Data: of soil	USGS Quad	rangle, NV	/I Data S	Soil Sun	ev Stream be	nk Alass	ii (3)		
of soil		<u> </u>	, \	- on Our	cy. Oneam Da	ilik Algae on s	surface		

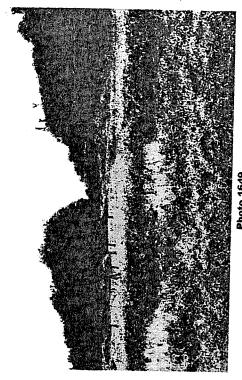
Benchmark Ecology Services Inc. QC ID: 27-2 SOILS Ρ Drainage Class: Map Unit Name Field Observations (Series and Phase): Wakeland silt loam Frequently Flooded No Confirmed Map Type? Yes Aeric Fluvaquents Taxonomy (subgroup): Profile Description Texture, Concretions, Mottle Mottle Color Matrix Color Depth Horizon Structure, ect. Abundance/Contrast (Munsell moist) (Munsell Moist) (inches) Silty loam 10 YR 4/2 0-19 Hydric Soil Indicators Concretions Histisol High Organic Content in Surface Layer Sandy Soils Histic Epipedon Organic Streaking in Sandy Soils Sulfidic Odor Listed on Hydric Soils List Aquic Moisture Regime X Listed on National Hydric Soils List X **Reducing Conditions** Other (Explain in Remarks) Gleyed or Low-Chroma Colors X Remarks: Very thin layer of algae on surface of soil. Negative alfa alfa dipyridal. WETLAND DETERMINATION Is Sample Point Yes No Hydrophytic Vegetation Present? X No Within a Wetland? Yes Yes X No Wetland Hydrology Present? No X Yes Hydric Soil Present? Remarks: see other comments. 177 Marathon. WPT 178 North boundry. 179-181,184 West Boundry. WPT 182-183 East boundry.

Photos: 1703

Appendix B

**2Rivers Pipeline Site Photographs** 

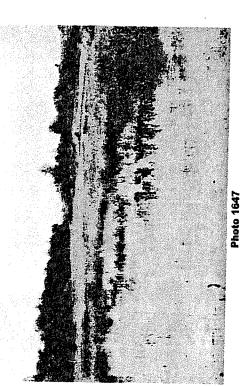
## 

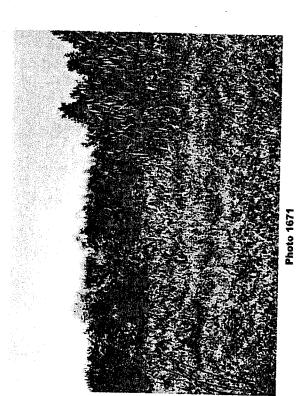






**Equilon 2Rivers Project** 

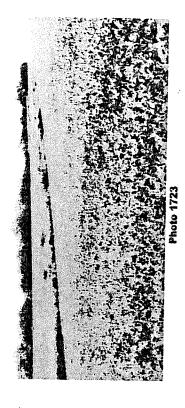


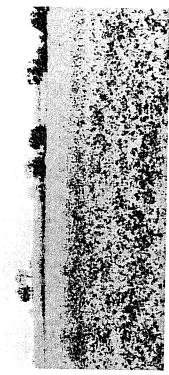


Benchmark Ecological Services, Inc.

**6** 

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Equilon 2Rivers Project

Benchmark Ecological Services, Inc

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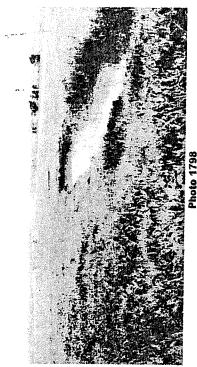
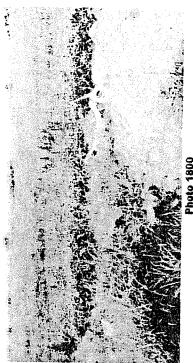
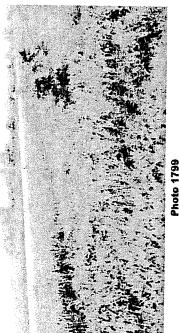


Photo 1772









Bonchmark Ecological Services, Inc

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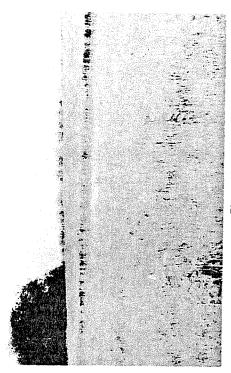


Photo 1769

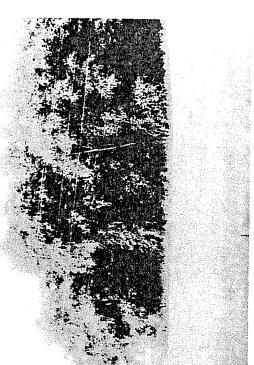
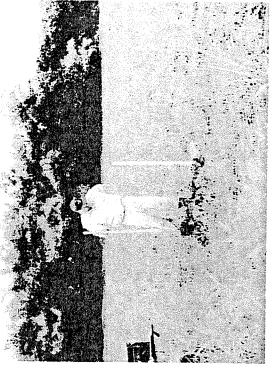


Photo 1802

Equilon 2Rivers Project

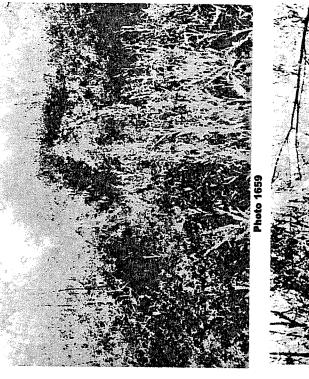
Benchmark Ecological Services, Inc

# Carve Agreement of the Sections





# Back Nilow Netards









## Box-elder Wetlands

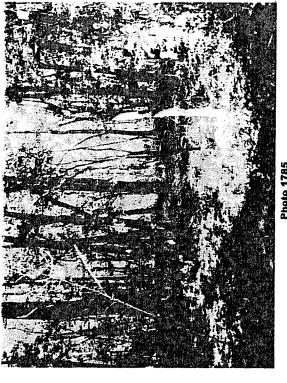


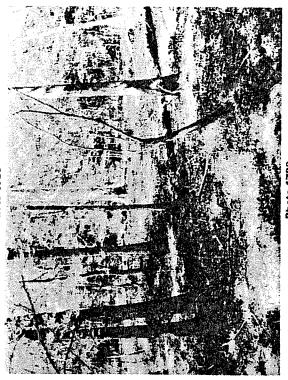


**Equilon 2Rivers Project** 

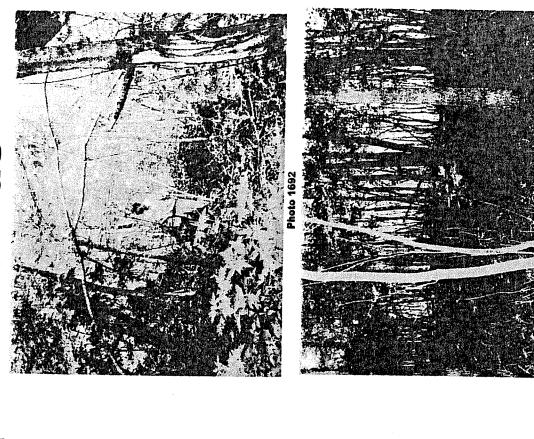
Benchmark Ecological Services, Inc

# Box-elder/Nable Wetlands





## Silver Maple Wetlands



Equilon 2Rivers Project

60-9

## Cottonwood Wetland

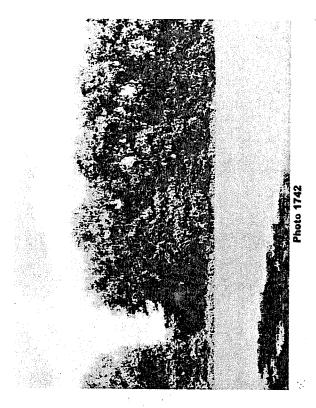




Photo 1

# Willow/Cottonwood Wetang

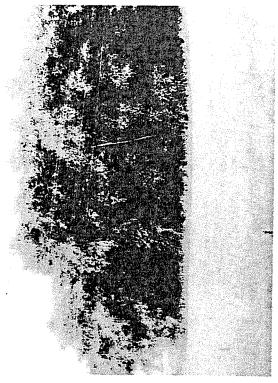


Photo 1802

Photo 1801



## 



Photo 1728



Photo 1

### Appendix C

2Rivers Pipeline Wetland and Stream Crossing Location Maps

