Site Overview **Datasheet version: 3**

Site ID: Cave 1	Site name (optional):	Crew code: 1 Crew chief name: Kayla McKibbon	Sampling type: New Finishing incomplete site
Sample Date: 5/20/21			

Shoreline

Shoreline Structure	% of site	Landcover near shore	% of site	Photo #s
1. Sand Beach		1. Low Density Resid.		
2. Rocky Shoreline		2. High Density Resid.		
3. Cliff		3. Commercial/Indust		
4. RipRap	100	4. Ag		
5. Vegetated Bank		5. Upland forest		
6. Muddy Bank		6. Forested wetland		
7. Marsh		7. Marsh		
8. Other		8. Stream		
		9. Other Can't see land (e.g., cliff, hill)	100	Parkland

GPS Unit No.: KM1
Boat launch waypoint: NA
Boat launch lat: NA
Boat launch long: NA
Camera ID: Tablet

Site morphometry & connectivity

Braiding Index (riverine wtland only; select only one)
- 0 channelized river
- 1 unchannelized river, no meanders
- 2 moderate meanders, no braiding
- 3 multiple channels; no permanent vegetation
- 4 multiple channels with permanent vegetation

Hydrologic connection to lake (select only one)
- 0 strictly riverine connection to lake
- 1 fully exposed to deep water portion of lake
- 2 fully exposed, but partially protected from direct wave action (e.g., submerged bar)
- 3 partially protected by sand bar, reef; opening is a large river
- 4 partially protected by sand bar, reef; opening is a small stream
- 5 fully separated from lake, but seasonal inundation possible
- 6 fully separated from lake by permanent sand bar, dune, dyke (why sample?)

Water level (select as many as necessary)
- 1 Water level stabilized by dyke (why sample?)
- 2 Hydrology influenced by culvert, road
- 3 Evidence of recent water level change (e.g., artificial dyke pumping)
- 4 Evidence of long-term water level change (lake level)
- 5 Weather-related current (onshore wind inducing seiche)
- 6 Water level change not observed

WL comment:

Sketch cross-section of riverine sites

Habitat Structure

Habitat Types (at scale of the entire wetland polygon) **(circle all present)**

riprap	shallow emergent (shrubby)	shallow emergent (herbaceous)
bedrock	floating leaf	submergent
boulder	open water	undercut bank
cobble	riverine / erosional	riverine / depositional
sand	wet meadow	muddy / unvegetated shoreline
organic detritus	island	hummock
muck		bog mat

Vegetation Zone Structure (choose only one)
- 1 no vegetation
- 2 zones by depth
- 3 uniform distribution (e.g., single-species stand or even distribution of taxa all mixed together)
- 4 patchwork mosaic (e.g., patches of cattail, bulrush, SAV etc) + no veg

Disturbance (circle all present in site or within 250 m of site)

RipRap	Sewage Discharge	Water Diversion	Boat channels (#):
Dredging (#)	Industrial Discharge	Channelization	Mowing/veg removal (% of site): 60%
Marina	Rec. docks (#):	Ship docks (#):	Shoreline Modification (describe below)

Shoreline modifications (describe):

Recreational activities: swimming sailing fishing motor-boating PWC

Pollution: Public Litter Commercial Refuse Petroleum Sewege
Large Equipment Household Appliances

Evidence and location of other disturbance (incl. natural disturbance such as beaver, carp, muskrat):

Site not sampleable for bugs or fish because....

Acceptable reasons: no access, wetland no longer exists, water too deep/shallow, vegetation too dense (name it). Please describe below.

Version 2 Site ID: Cave1 Site Name: Ford Cave Date: 5/20/21

Pre-launch Checklist:
- ☒ Calibrate meters KM (signature)
- ☒ Notify DNR, others for sampling permission
- ☒ Nets intact, no holes

- ☐ Download GPS points
- ☐ Download site information
- ☐ Upload GPS points to NRRI
- ☐ Update site information in site database

Crew names: KM, JD

Field crew chief: Kayla McRobb

Weather: (Dry) Damp/Haze/Fog Drizzle Rain **Air Temp (F):** 70 **% Cloud Cover:** 35 **Wind:** (onshore) offshore alongshore

Past 24 hr weather notes: clear, warm, breezy

Seiche Evidence: onshore offshore none

Important reminders about this site:

Site characterization form	Invertebrate forms	Fish forms	Water Quality
☒ Photos of site ☐ Sketch of riverine site ☐ Boat launch GPS waypoint	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: ☒ Samples labeled ☒ Sediment characterization ☒ Water depth 1m average	Number of nets per zone: ____ Zone: ____ Zone: ____ Zone: ____ Zone: ☐ Fish length & anomalies ☐ Unidentified fish preserved & labeled	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: *In Situ* WQ samples by: ☒ Zone ☐ Replicate
Overall site info	**Invertebrate Habitat**	**Fyke net habitat**	
☐ Shoreline & landcover ☐ Site morphometry/hydrology ☐ Habitat & vegetation patches ☐ Disturbance and pollution ☐ River cross-section sketch	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐

Notes: List broken equipment, supplies needed, notes for the next crew

I verify that the datasheets for this site are complete and accurate: _____ (field crew chief signature)

Macroinvertebrate / Water Quality Field Data Sheet

Site ID:	Cove 1
Date:	5/20/21
Sheet 1 of 1 for site	

Crew code: 1

Crew leader:	KM
Signature:	

_____Finishing incomplete site (check)

Zone name (veg type)		
Start/end time		
Zone contiguous or patches?		
Zone or patch size (m x m)		
Photos of zone		

Replicate Number	1.1	1.2	1.3	1	2	3
Latitude see points						
Longitude " "						
Waypoint ID	Cove 1	Cove 2	Cove 3			
Depth (m)	0.33	0.32	0.29			
Direction & dist to depth 0	W 8'	W 8'	W 8'			
Quadrat photo #'s	1-4	7-11	12-14			
Coverage at water surface (sum to 100%)						
% Emergent	0	0	0			
dominant sp. or gen.						
% Floating leaved	0	0	0			
dominant sp. or gen.						
% SAV floating at the surface	0	0	0			
dominant sp. or gen.						
% Floating filamentous algae	0	0	0			
% Open water	100	100	100			
Coverage at sediment surface (sum to 100%)						
% Standing emergent stems (living or dead)	5	0	0			
dominant sp. or gen.	DEAD					
% SAV	30	10	10			
dominant sp. or gen.						
% Coarse detritus (lying on bottom)	10	10	10			
% Filamentous algae	0	80	75			
% Bare sed. (no veg or detritus)	60	10	15			
Check box if unable to assess:						
Reason for not assessing:						
Organics Depth (cm)						
Substrate texture (dom/sub)	sand/silt	sand/silt	sand/silt			
Sample for % organic sed						
Number of 1m net sweeps	10	12	18			
Person-minutes picking	62	58	57			
Number of organisms	6	7	2			
Number of vials per rep	1	1	1			

_____ SEE FISH FORM FOR WQ DATA (CHECK)

In situ water quality	1	2	3	1	2	3
Dup. WQ (indicate rep)	754.6mm Hg					
Secchi tube (cm)						
Temperature (°C)	19.83					
Specific cond. (µS cm-1)	313.3 mS/cm					
DO (% Saturation)	121.2					
DO (mg/L)	11.2					
pH	8.39					
~~WQ meter data file ID~~ depth	1.14 ft					
Tot. Diss. Solids (g L^{-1})†	2.03 FNU					
Turbidity (NTU)†						
PC ug/L ~~Redox pot. (mv)~~†	0.18					
In situ chloro. a (µg/L)†	6.52					
Total Alk. (mg $CaCO_3$ L^{-1})						
Pheno. Alk. (mg $CaCO_3$ L^{-1})						

Sample volume prepped for storage						
Soluble reactive P	X					
NH_4	X					
NO_3	X					
Total P†	X					
Total N†	X					
Other:_____	X					
Chlorophyll filter (y/n) - sonde	X					

†=optional parameters

Site Overview Datasheet version: 3

Site ID: Shore1	Site name (optional):	Crew code: [redacted] 1	Sampling type: New
Sample Date: 5/20/21		Crew chief name: Kayla McRobb	Finishing incomplete site

Shoreline

Shoreline Structure	% of site	Landcover near shore	% of site	Photo #s
1. Sand Beach		1. Low Density Resid.		
2. Rocky Shoreline		2. High Density Resid.		
3. Cliff		3. Commercial/Indust		
4. RipRap	100	4. Ag		
5. Vegetated Bank		5. Upland forest		
6. Muddy Bank		6. Forested wetland		
7. Marsh		7. Marsh		
8. Other		8. Stream		
		9. Other	100	Park
		Can't see land (e.g. cliff, hill)		

GPS Unit No.: Kim1
Boat launch waypoint: NA
Boat launch lat: NA
Boat launch long: NA
Camera ID: Tablet

Site morphometry & connectivity

Sketch cross-section of riverine sites

Braiding Index (riverine wtland only; select only one)
- 0 channelized river
- 1 unchannelized river, no meanders
- 2 moderate meanders, no braiding
- 3 multiple channels; no permanent vegetation
- 4 multiple channels with permanent vegetation

Hydrologic connection to lake (select only one)
- 0 strictly riverine connection to lake
- 1 fully exposed to deep water portion of lake
- 2 fully exposed, but partially protected from direct wave action (e.g., submerged bar)
- 3 partially protected by sand bar, reef; opening is a large river
- 4 partially protected by sand bar, reef; opening is a small stream
- 5 fully separated from lake, but seasonal inundation possible
- 6 fully separated from lake by permanent sand bar, dune, dyke (why sample?)

Water level (select as many as necessary)
- 1 Water level stabilized by dyke (why sample?)
- 2 Hydrology influenced by culvert, road
- 3 Evidence of recent water level change (e.g., artificial dyke pumping)
- 4 Evidence of long-term water level change (lake level)
- 5 Weather-related current (onshore wind inducing seiche)
- 6 Water level change not observed

WL comment:

Habitat Structure

Habitat Types (at scale of the entire wetland polygon) (circle all present)

riprap	shallow emergent (shrubby)	shallow emergent (herbaceous)
bedrock	floating leaf	submergent
boulder	open water	undercut bank
cobble	riverine / erosional	riverine / depositional
sand	wet meadow	muddy / unvegetated shoreline
organic detritus	island	hummock
muck		bog mat

Vegetation Zone Structure (choose only one)
- 1 no vegetation
- 2 zones by depth
- 3 uniform distribution (e.g., single-species stand or even distribution of taxa all mixed together)
- 4 patchwork mosaic (e.g., patches of cattail, bulrush, SAV, etc)

Disturbance (circle all present in site or within 250 m of site)

RipRap	Sewage Discharge	Water Diversion	Boat channels (#):
Dredging (#)	Industrial Discharge	Channelization	Mowing/veg removal (% of site): 90%
Marina	Rec. docks (#):	Ship docks (#):	Shoreline Modification (describe below)

Shoreline modifications (describe):

Recreational activities: swimming sailing fishing motor-boating PWC

Pollution: Public Litter Commercial Refuse Petroleum Sewege Large Equipment Household Appliances

Evidence and location of other disturbance (incl. natural disturbance such as beaver, carp, muskrat):

Site not sampleable for bugs or fish because....

Acceptable reasons: no access, wetland no longer exists, water too deep/shallow, vegetation too dense (name it). Please describe below.

Version 2 Site ID: Shore 1 Site Name: Ford Cove Date: 5/20/21

Pre-launch Checklist:
- ☒ Calibrate meters KM (signature)
- ☒ Notify DNR, others for sampling permission
- ☒ Nets intact, no holes

- ☐ Download GPS points
- ☐ Download site information
- ☐ Upload GPS points to NRRI
- ☐ Update site information in site database

Crew names: KM, JD

Field crew chief: Kayla McRobb

Weather: (Dry) Damp/Haze/Fog Drizzle Rain **Air Temp (F):** 70 **% Cloud Cover:** 35 **Wind:** (onshore) offshore alongshore

Past 24 hr weather notes: clear, warm, breezy

Seiche Evidence: onshore offshore none

Important reminders about this site:

Site characterization form	Invertebrate forms	Fish forms	Water Quality
☒ Photos of site ☐ Sketch of riverine site ☐ Boat launch GPS waypoint	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: ☐ Samples labeled ☐ Sediment characterization ☐ Water depth	Number of nets per zone: ____ Zone: ____ Zone: ____ Zone: ____ Zone: ☐ Fish length & anomalies ☐ Unidentified fish preserved & labeled	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: *In Situ* WQ samples by: ☒ Zone ☐ Replicate
Overall site info	**Invertebrate Habitat**	**Fyke net habitat**	
☐ Shoreline & landcover ☐ Site morphometry/hydrology ☐ Habitat & vegetation patches ☐ Disturbance and pollution ☐ River cross-section sketch	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐

Notes: List broken equipment, supplies needed, notes for the next crew

I verify that the datasheets for this site are complete and accurate: _____ (field crew chief signature)

Macroinvertebrate / Water Quality Field Data Sheet

Site ID:	Shore 1
Date:	5/20/21
Sheet ( ) of 1 for site	

Crew code: 1

Crew leader:	[illegible]
Signature:	[signature]

_____ Finishing incomplete site (check)

Zone name (veg type)		
Start/end time		
Zone contiguous or patches?		
Zone or patch size (m x m)		
Photos of zone		

Replicate Number	1.1	1.2	1.3	1	2	3
Latitude	see pts					
Longitude	" "					
Waypoint ID	Shore 1	Shore 2	Shore 3			
Depth (m)	0.39	0.33	0.37			
Direction & dist to depth 0	W 3'	W 3'	W 3'			
Quadrat photo #'s	15-17	18-20	21-24			
Coverage at water surface (sum to 100%)						
% Emergent	0	0	0			
dominant sp. or gen.						
% Floating leaved	0	0	0			
dominant sp. or gen.						
% SAV floating at the surface	0	0	0			
dominant sp. or gen.						
% Floating filamentous algae	0	0	0			
% Open water	100	100	100			
Coverage at sediment surface (sum to 100%)						
% Standing emergent stems (living or dead)	0	0	0			
dominant sp. or gen.						
% SAV	0	0	10			
dominant sp. or gen.						
% Coarse detritus (lying on bottom)	2	0	0			
% Filamentous algae						
% Bare sed. (no veg or detritus)	100	100	90			
Check box if unable to assess:						
Reason for not assessing:						
Organics Depth (cm)						
Substrate texture (dom/sub)	sand	sand	sand			
Sample for % organic sed						
Number of 1m net sweeps	12	8	10			
Person-minutes picking	64	50	52			
Number of organisms	48	9	11			
Number of vials per rep	1	1	1			

_____ SEE FISH FORM FOR WQ DATA (CHECK)

***In situ* water quality**	1	2	3	1	2	3
Dup. WQ (indicate rep)	754.3 mm Hg					
Secchi tube (cm)						
Temperature (°C)	20.57					
Specific cond. (µS cm-1)	322.5					
DO (% Saturation)	125.1					
DO (mg/L)	11.18					
pH	8.42					
~~WQ meter data file ID~~ depth	1.71 ft					
Tot. Diss. Solids (g L^{-1})†						
Turbidity (NTU)†	0.80 FNU					
PC mg/L ~~Redox pot. (mv)~~†	0.03					
In situ chloro. a (µg/L)†	1.12 ug/L					
Total Alk. (mg $CaCO_3$ L^{-1})						
Pheno. Alk. (mg $CaCO_3$ L^{-1})						
Sample volume prepped for storage						
Soluble reactive P	x					
NH_4	x					
NO_3	x					
Total P†	x					
Total N†	x					
Other:_____	x					
Chlorophyll filter (y/n) see Sandl data	x					

†=optional parameters

Site Overview Datasheet version: 3

Site ID: Cove 1	Site name (optional):	Crew code: 1 Crew chief name: Kayla McRobb	Sampling type: New Finishing incomplete site
Sample Date: 9/29/21			

Shoreline

Shoreline Structure	% of site	Landcover near shore	% of site	Photo #s
1. Sand Beach		1. Low Density Resid.		
2. Rocky Shoreline		2. High Density Resid.		
3. Cliff		3. Commercial/Indust		
4. RipRap	100	4. Ag		
5. Vegetated Bank		5. Upland forest		
6. Muddy Bank		6. Forested wetland		
7. Marsh		7. Marsh		
8. Other		8. Stream		
		9. Other	100	Park
		Can't see land (e.g.,cliff, hill)		

GPS Unit No.: Kml
Boat launch waypoint: NA
Boat launch lat: NA
Boat launch long: NA
Camera ID: Tablet

Site morphometry & connectivity

Sketch cross-section of riverine sites

Braiding Index (riverine wtland only; select only one)
- 0 channelized river
- 1 unchannelized river, no meanders
- 2 moderate meanders, no braiding
- 3 multiple channels; no permanent vegetation
- 4 multiple channels with permanent vegetation

Hydrologic connection to lake (select only one)
- 0 strictly riverine connection to lake
- 1 fully exposed to deep water portion of lake
- 2 fully exposed, but partially protected from direct wave action (e.g., submerged bar)
- 3 partially protected by sand bar, reef; opening is a large river
- 4 partially protected by sand bar, reef; opening is a small stream
- 5 fully separated from lake, but seasonal inundation possible
- 6 fully separated from lake by permanent sand bar, dune, dyke (why sample?)

Water level (select as many as necessary)
- 1 Water level stabilized by dyke (why sample?)
- 2 Hydrology influenced by culvert, road
- 3 Evidence of recent water level change (e.g., artificial dyke pumping)
- 4 Evidence of long-term water level change (lake level)
- 5 Weather-related current (onshore wind inducing seiche)
- 6 Water level change not observed

WL comment:

Habitat Structure

Habitat Types (at scale of the entire wetland polygon) (circle all present)

riprap	shallow emergent (shrubby)	shallow emergent (herbaceous)
bedrock	floating leaf	submergent
boulder	open water	undercut bank
cobble	riverine / erosional	riverine / depositional
sand	wet meadow	muddy / unvegetated shoreline
organic detritus	island	hummock
muck		bog mat

Vegetation Zone Structure (choose only one)
- 1 no vegetation
- 2 zones by depth
- 3 uniform distribution (e.g., single-species stand or even distribution of taxa all mixed together)
- 4 patchwork mosaic (e.g., patches of cattail, bulrush, SAV, etc)

Disturbance (circle all present in site or within 250 m of site)

RipRap	Sewage Discharge	Water Diversion	Boat channels (#):
Dredging (#)	Industrial Discharge	Channelization	Mowing/veg removal (% of site): 60%
Marina	Rec. docks (#):	Ship docks (#):	Shoreline Modification (describe below)

Shoreline modifications (describe):

Recreational activities: swimming, sailing, fishing, motor-boating, PWC

Pollution: Public Litter, Commercial Refuse, Petroleum, Sewege, Large Equipment, Household Appliances

Evidence and location of other disturbance (incl. natural disturbance such as beaver, carp, muskrat):

Site not sampleable for bugs or fish because....

Acceptable reasons: no access, wetland no longer exists, water too deep/shallow, vegetation too dense (name it). Please describe below.

Version 2 Site ID: Cove 1 Site Name: Ford Cove Date: 9/29/21

Pre-launch Checklist:	
☒ Calibrate meters KM (signature)	☐ Download GPS points
☒ Notify DNR, others for sampling permission	☐ Download site information
☒ Nets intact, no holes	☐ Upload GPS points to NRRI
	☐ Update site information in site database

Crew names: KM, WR

Field crew chief: Kayla McRobb

Weather: (Dry) Damp/Haze/Fog Drizzle Rain **Air Temp (F):** 62 **% Cloud Cover:** 0 **Wind:** onshore offshore (alongshore)

Past 24 hr weather notes: sunny & cool

Seiche Evidence: onshore offshore none

Important reminders about this site:

Site characterization form	**Invertebrate forms**	**Fish forms**	**Water Quality**
☒ Photos of site	Zones sampled (list):	Number of nets per zone:	Zones sampled (list):
☐ Sketch of riverine site	☒ Zone: SAV	____ Zone:	☒ Zone: SAV
☐ Boat launch GPS waypoint	☐ Zone:	____ Zone:	☐ Zone:
	☐ Zone:	____ Zone:	☐ Zone:
	☐ Zone:	____ Zone:	☐ Zone:
	☐ Samples labeled	☐ Fish length & anomalies	*In Situ* WQ samples by:
	☐ Sediment characterization	☐ Unidentified fish preserved & labeled	☐ Zone
	☐ Water depth		☐ Replicate
Overall site info	**Invertebrate Habitat**	**Fyke net habitat**	
☐ Shoreline & landcover	☐ Plant quadrats	☐ Plant quadrats	☐
☐ Site morphometry/hydrology	☐ Secchi depth/turbidity tube	☐ Secchi depth/turbidity tube	
☐ Habitat & vegetation patches	☐ Sediment characterization	☐ Sediment characterization	
☐ Disturbance and pollution	☐	☐	
☐ River cross-section sketch			

Notes: List broken equipment, supplies needed, notes for the next crew

I verify that the datasheets for this site are complete and accurate: _____ (field crew chief signature)

Macroinvertebrate / Water Quality Field Data Sheet

Site ID: Cove 1
Date: 9/29/21
Sheet 1 of 1 for site

Crew code: 1
Crew leader: KM
Signature: KM MR

_____Finishing incomplete site (check)

Zone name (veg type)		
Start/end time		
Zone contiguous or patches?		
Zone or patch size (m x m)		
Photos of zone		

Replicate Number	1.1	1.2	1.3	1	2	3
Latitude	see pt 5					
Longitude	" "					
Waypoint ID	Cove 1	Cove 2	Cove 3			
Depth (m)	0.33	0.32	0.29			
Direction & dist to depth 0	W 8'	W 8'	W 8'			
Quadrat photo #'s						
Coverage at water surface (sum to 100%)						
% Emergent	0	0	0			
dominant sp. or gen.						
% Floating leaved	40	30	10			
dominant sp. or gen.	DEAD	DEAD	DEAD			
% SAV floating at the surface	0	0	0			
dominant sp. or gen.						
% Floating filamentous algae		~~20~~	~~20~~			
% Open water	60	80	90			
Coverage at sediment surface (sum to 100%)						
% Standing emergent stems (living or dead)	0	0	0			
dominant sp. or gen.						
% SAV	0	0	0			
dominant sp. or gen.						
% Coarse detritus (lying on bottom)	0	0	0			
% Filamentous algae	0	20	10			
% Bare sed. (no veg or detritus)	100	80	90			
Check box if unable to assess:						
Reason for not assessing:						
Organics Depth (cm)						
Substrate texture (dom/sub)	sand/silt	sand/silt	sand/silt			
Sample for % organic sed						
Number of 1m net sweeps	13	14	11			
Person-minutes picking	63	65	58			
Number of organisms	17	13	8			
Number of vials per rep	1	1	1			

_____ SEE FISH FORM FOR WQ DATA (CHECK)

In situ water quality	1	2	3	1	2	3
Dup. WQ (indicate rep)						
Secchi tube (cm)						
Temperature (°C)	19.21					
Specific cond. (µS cm-1)	291.4					
DO (% Saturation)	87.4					
DO (mg/L)						
pH	7.84					
~~WQ meter data file ID~~ depth	1.43 ft					
Tot. Diss. Solids (g L^{-1})†						
Turbidity (~~NTU~~)†	2.07 FNU					
DC mg/L Redox pot. (~~mv~~)†	0.14					
In situ chloro. a (µg/L)†	2.97					
Total Alk. (mg $CaCO_3$ L^{-1})						
Pheno. Alk. (mg $CaCO_3$ L^{-1})						

Sample volume prepped for storage						
Soluble reactive P	X					
NH_4	X					
NO_3	X					
Total P†	X					
Total N†	X					
Other:_____	X					
Chlorophyll filter (y/n) Sonde	X					

†=optional parameters

Site Overview **Datasheet version: 3**

Site ID: Shore 1	Site name (optional):	Crew code: KM, WR Crew chief name: Kayla McRobb	Sampling type: New Finishing incomplete site
Sample Date: 9/29/21			

Shoreline

Shoreline Structure	% of site	Landcover near shore	% of site	Photo #s
1. Sand Beach		1. Low Density Resid.		
2. Rocky Shoreline		2. High Density Resid.		
3. Cliff		3. Commercial/Indust		
4. RipRap	100	4. Ag		
5. Vegetated Bank		5. Upland forest		
6. Muddy Bank		6. Forested wetland		
7. Marsh		7. Marsh		
8. Other		8. Stream		
		9. Other	100	Park
		Can't see land (e.g., cliff, hill)		

GPS Unit No.: KM 1
Boat launch waypoint: NA
Boat launch lat: NA
Boat launch long: NA
Camera ID: Tablet

Site morphometry & connectivity

Sketch cross-section of riverine sites

Braiding Index (riverine wtland only; select only one)
- 0 channelized river
- 1 unchannelized river, no meanders
- 2 moderate meanders, no braiding
- 3 multiple channels; no permanent vegetation
- 4 multiple channels with permanent vegetation

Hydrologic connection to lake (select only one)
- 0 strictly riverine connection to lake
- 1 fully exposed to deep water portion of lake
- 2 fully exposed, but partially protected from direct wave action (e.g., submerged bar)
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- 4 partially protected by sand bar, reef; opening is a small stream
- 5 fully separated from lake, but seasonal inundation possible
- 6 fully separated from lake by permanent sand bar, dune, dyke (why sample?)

Water level (select as many as necessary)
- 1 Water level stabilized by dyke (why sample?)
- 2 Hydrology influenced by culvert, road
- 3 Evidence of recent water level change (e.g., artificial dyke pumping)
- 4 Evidence of long-term water level change (lake level)
- 5 Weather-related current (onshore wind inducing seiche)
- 6 Water level change not observed

WL comment:

Habitat Structure

Habitat Types (at scale of the entire wetland polygon) **(circle all present)**

riprap	shallow emergent (shrubby)	shallow emergent (herbaceous)
bedrock	floating leaf	submergent
boulder	open water	undercut bank
cobble	riverine / erosional	riverine / depositional
sand	wet meadow	muddy / unvegetated shoreline
organic detritus	island	hummock
muck		bog mat

Vegetation Zone Structure (choose only one)
- 1 no vegetation
- 2 zones by depth
- 3 uniform distribution (e.g., single-species stand or even distribution of taxa all mixed together)
- 4 patchwork mosaic (e.g., patches of cattail, bulrush, SAV, etc)

Disturbance (circle all present in site or within 250 m of site)

RipRap	Sewage Discharge	Water Diversion	Boat channels (#):
Dredging (#)	Industrial Discharge	Channelization	Mowing/veg removal (% of site): 50%
Marina	Rec. docks (#):	Ship docks (#):	Shoreline Modification (describe below)

Shoreline modifications (describe):

Recreational activities: swimming sailing fishing motor-boating PWC

Pollution: Public Litter Commercial Refuse Petroleum Sewege
Large Equipment Household Appliances

Evidence and location of other disturbance (incl. natural disturbance such as beaver, carp, muskrat) :

Site not sampleable for bugs or fish because....

Acceptable reasons: no access, wetland no longer exists, water too deep/shallow, vegetation too dense (name it). Please describe below.

Version 2 Site ID: Shore1 Site Name: Ford Cove Date: 9/29/21

Pre-launch Checklist:	
☑ Calibrate meters KM (signature) ☑ Notify DNR, others for sampling permission ☑ Nets intact, no holes	☐ Download GPS points ☐ Download site information ☐ Upload GPS points to NRRI ☐ Update site information in site database

Crew names: KM, WR

Field crew chief: Kayla McRobb

Weather: (Dry) Damp/Haze/Fog Drizzle Rain **Air Temp (F):** 62 **% Cloud Cover:** 0 **Wind:** onshore offshore ~~alongshore~~

Past 24 hr weather notes: sunny & cool

Seiche Evidence: onshore offshore none

Important reminders about this site:

Site characterization form	**Invertebrate forms**	**Fish forms**	**Water Quality**
☒ Photos of site ☐ Sketch of riverine site ☐ Boat launch GPS waypoint	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: ☐ Samples labeled ☐ Sediment characterization ☐ Water depth	Number of nets per zone: ___ Zone: ___ Zone: ___ Zone: ___ Zone: ☐ Fish length & anomalies ☐ Unidentified fish preserved & labeled	Zones sampled (list): ☒ Zone: SAV ☐ Zone: ☐ Zone: ☐ Zone: *In Situ* WQ samples by: ~~☒ Zone~~ sampler removed ☐ Replicate
Overall site info	**Invertebrate Habitat**	**Fyke net habitat**	
☐ Shoreline & landcover ☐ Site morphometry/hydrology ☐ Habitat & vegetation patches ☐ Disturbance and pollution ☐ River cross-section sketch	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐ Plant quadrats ☐ Secchi depth/turbidity tube ☐ Sediment characterization ☐	☐

Notes: List broken equipment, supplies needed, notes for the next crew

I verify that the datasheets for this site are complete and accurate: _____ (field crew chief signature)

Macroinvertebrate / Water Quality Field Data Sheet

Site ID:	Shore 1
Date:	9/29/21
Sheet 1 of 1 for site	

Crew code: 1

Crew leader:	KM
Signature:	

_____Finishing incomplete site (check)

Zone name (veg type)		
Start/end time	10:10 am	
Zone contiguous or patches?		
Zone or patch size (m x m)		
Photos of zone		

Replicate Number	1	2	3	1	2	3
Latitude	see pt 5					
Longitude	" "					
Waypoint ID	Shore 1	Shore 2	Shore 3			
Depth (m)	0.41	0.35	0.39			
Direction & dist to depth 0	W 3'	W 3'	W 3'			
Quadrat photo #'s						
Coverage at water surface (sum to 100%)						
% Emergent	0	0	0			
dominant sp. or gen.						
% Floating leaved	0	0	0			
dominant sp. or gen.						
% SAV floating at the surface	0	0	0			
dominant sp. or gen.						
% Floating filamentous algae	0	0	0			
% Open water	100	100	100			
Coverage at sediment surface (sum to 100%)						
% Standing emergent stems (living or dead)	0	0	0			
dominant sp. or gen.						
% SAV	0	0	0			
dominant sp. or gen.						
% Coarse detritus (lying on bottom)	0	0	0			
% Filamentous algae	0	0	0			
% Bare sed. (no veg or detritus)	100	100	100			
Check box if unable to assess:						
Reason for not assessing:						
Organics Depth (cm)						
Substrate texture (dom/sub)	sand	sand	sand			
Sample for % organic sed						
Number of 1m net sweeps	10	11	9			
Person-minutes picking	73	61	56			
Number of organisms	0	0	2			
Number of vials per rep	1	1	1			

_____ SEE FISH FORM FOR WQ DATA (CHECK)

In situ water quality	1	2	3	1	2	3
Dup. WQ (indicate rep)						
Secchi tube (cm)						
Temperature (°C)	18.16					
Specific cond. (µS cm-1)	271.1					
DO (% Saturation)	101.1					
DO (mg/L)						
pH	8.24					
~~WQ meter data file ID~~ depth	1.76 ft					
Tot. Diss. Solids (g L^{-1})†						
Turbidity (NTU)†	3.86 FNU					
~~Redox pot. (mv)†~~ DO mg/L	0.22					
In situ chloro. a (µg/L)†	2.85 ug/L					
Total Alk. (mg $CaCO_3$ L^{-1})						
Pheno. Alk. (mg $CaCO_3$ L^{-1})						

Sample volume prepped for storage						
Soluble reactive P	X					
NH_4	X					
NO_3	X					
Total P†	X					
Total N†	X					
Other:_____	X					
Chlorophyll filter (y/n) sample	X					

†=optional parameters