CBEP Programmatic QAPP Appendix Supplement 2: Data sheets and chain of custody form

The following data sheets are to be used in association with the SOPs in Appendices A – V of the CBEP Programmatic QAPP. Not every SOP has an associated data sheet, as some SOPs record almost entirely digital data (e.g., photo stations, drone surveys, and continuous water quality monitoring). Some SOPs require project specific data sheets as methods can be highly variable (e.g., discrete water quality monitoring and SHARP surveys). In this case, project-specific data sheets will be included with the SAP.

Tidal Marsh Rapid Assessment Data Sheet

Site Name:_____ Date: _____

Field Crew: _____ Weather: _____

Site Entrance Coordinates (Latitude, Longitude): _____

Was a Desktop Assessment done prior to site visit?:

☐ Yes ☐ No

Data/observations collected (check boxes and staple appropriate data sheets to this cover sheet)

☐ Site of interest GPS coordinates
☐ General notes/obsrvations
☐ Hand-drawn maps
☐ Notes on anthropogenic structures
☐ Surface water salinity
☐ Description of soil layers
☐ Soil horizon thickness
☐ Soil cores
☐ Vegetation
☐ Plant Species of Concern (SOCs)
☐ Other (list below)
☐ Other data:

Were site photos taken?

☐ Yes ☐ No

If Yes, on what camera and what photo numbers?

Site Notes:

Site Conclusions (need for additional surveys, an SAP, or Long-term Monitoring? What information will be provided to partners?):

Recorder:	
Start date:	
SITE ID #:	

TIDAL CROSSING - CULVERT DATA SHEET

STRUCTURE CHARACTERISTICS

Culvert #: **Function:**

Recorder:	
Start date:	
SITE ID #:	

TIDAL CROSSING – SITE DATA SHEET

Overall Site Start Time: __:__

STATION INFORMATION

Weather:		**Precip. last 24 hrs:**	
Waterbody:		**Street/Crossing:**	
Fish Barrier ID#:		**Town:**	
Predicted low tide time:		**Predicted low tide height:**	
Downstream tidal stage:	high mid-high mid mid-low low		
Tide direction upon arrival:	incoming outgoing slack		

SITE GPS COORDINATES; (UTM, ZONE 19 N, NAD 1983)

Easting	0 _ _ _ _ _ _	**Northing**	_ _ _ _ _ _ _

CROSSING CHARACTERISTICS

Structural Integrity:	structural failure / obstruction / shoulder or bank erosion / rip-rap, debris in channel **Photo #:** **Description:**
Utilities present:	overhead lines / pump station / sewer / water / fuel / other (describe):
Evidence of current use:	fire pond / swimming area / skating pond / other (describe):
Low-lying development upstream:	Structures: house / building / retaining wall / dock. Describe:
	Transportation: road / driveway / pathway. Describe:
	Landscaping: lawn / garden / other. Describe:

OBSERVATIONS OF SCOUR & IMPOUNDMENT

Upstream	Unrestricted without pooling	**Photo #:**	**Downstream**	Unrestricted without pooling	**Photo #:**
	Flow detained and/or some erosion			Flow detained and/or some erosion	
	Minor pool and/or erosion			Minor pool and/or erosion	
	Significant pooling and/or erosion			Significant pooling and/or erosion	
	Major pooling and/or erosion			Major pooling and/or erosion	

STAKEHOLDER INTERACTIONS

Abutter wner Other:_____	Name:		Property address:		Contact info:		
Questions, concerns, comments:							
Abutter wner Other:_____	Name:		Property address:		Contact info:		
Questions, concerns, comments:							

Overall Site End Time: __:__

Recorder:	
Start date:	
SITE ID #:	

VISUAL ASSESSMENT

Start Time: __:__

<table>
<tr><th colspan="2">Upstream</th><th colspan="2">Crossing/culvert</th><th colspan="2">Downstream</th></tr>
<tr><td colspan="2">Scour Pool
Low marsh/ channel bank slumping
Impounded/ slack water at low tide
Debris Jam</td><td colspan="2">Sheet flow blocked across high marsh

Obstruction within structure</td><td colspan="2">Scour Pool
Low marsh/ channel bank slumping
Perch at low tide
Debris Jam
Wrack build up along bank</td></tr>
<tr><td rowspan="2">Species of concern:</td><td></td><td colspan="2">Impacts to water velocity:</td><td rowspan="2">Species of concern:</td><td></td></tr>
<tr><td>Stand size:
Large
Small
Individuals</td><td>Tide Direction:</td><td>Incoming
Outgoing</td><td>Stand size:
Large
Small
Individuals</td></tr>
<tr><td>Other visible impacts:</td><td>Ditching
Fill
Dumping
Pipe discharge
Stormwater runoff
Agricultural impacts
Describe:_____
_____</td><td colspan="2" rowspan="2">Upstream…

…downstream</td><td>Other visible impacts:</td><td>Ditching
Fill
Dumping
Pipe discharge
Stormwater runoff
Agricultural impacts
Describe: _____
_____
_____</td></tr>
<tr><td>Inlet condition</td><td>At stream grade
Inlet drop
Perched
Deformed
Beaver fencing
Blocked (circle)</td><td>Outlet condition</td><td>At stream grade
Inlet drop
Perched
Deformed
Beaver fencing
Blocked (circle)</td></tr>
</table>

Recorder:	
Start date:	
SITE ID #:	

LOCAL BENCHMARK

Start Time: __:__

Easting:	0 _ _ _ _ _ _	**Northing:**	_ _ _ _ _ _ _
Benchmark description:			**Benchmark Photo #(s):**
Plan sketch of benchmark location:			

End Time: __:__

Recorder:	
Start date:	
SITE ID #:	

STRUCTURAL ELEVATIONS DATA SHEET

ROAD/CROSSING PROFILE

Start Time: __:__

	Location	**Stadia Rod Reading ( )**	**Relative elevation above Lowest Point** (Calculated)	**Comments**
--	Local benchmark			
D/S	High marsh surface			
D/S	Base of bank			
D/S	Top of bank			
D/S	Edge of pavement			
--	Crown			
U/S	Edge of pavement			
U/S	Top of bank			
U/S	Base of bank			
U/S	High marsh surface			

End Time: __:__

Recorder:	
Start date:	
SITE ID #:	

Start Time: __:__

TIDAL CROSSING – MARSH ELEVATION DATA SHEET (P.1)

		Transect Location (ft.)	Stadia Rod Reading	Relative elevation above Lowest Point (Calculated)	Comments
		Local Benchmark			
Downstream	Upland edge – river right, 0' **Easting: 0 _____ Northing: _____**				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	Top channel bank (river right) **Easting: 0 _____ Northing: _____**				
	Top channel bank (river left) **Easting: 0 _____ Northing: _____**				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	Upland edge (river left) **Easting: 0 _____ Northing: _____**				

End Time: __:__

Recorder:	
Start date:	
SITE ID #:	

Start Time: __:__

TIDAL CROSSING – MARSH ELEVATION DATA SHEET (P.2)

		Transect Location (ft.)	Stadia Rod Reading	Relative elevation above Lowest Point (Calculated)	Comments
		Local Benchmark			
Upstream	Upland edge (river right), 0' **Easting: 0** _____ **Northing:** _____				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	Top channel bank (river right) **Easting: 0** _____ **Northing:** _____				
	Top channel bank (river left) **Easting: 0** _____ **Northing:** _____				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	Top channel bank (river right), 0' **Easting: 0** _____ **Northing:** _____				

End Time: __:__

Recorder:	
Start date:	
SITE ID #:	

DESKTOP ANALYSIS DATA SHEET

SITE INFORMATION

Site Code:	**Date:**	**Town:**
Road:		**Road Ownership:**
Land Ownership/Contact: **Outcome:**		**Abutting Land Use within 250 feet:** Forested: ___% Agriculture:___% Developed:___% Other:___% **Comments:**
Transect Location Drawn(U/S): Elevation Channel Vegetation		**Transect Location Drawn(D/S):** Elevation Channel Vegetation
Structure Location: **Easting:** 0_ _ _ _ _ _		**Northing:** _ _ _ _ _ _ _
Utilities:		
Affected Wetland Area:		

SURVEY CONTROLPOINT (KNOWN ELEVATION)

Easting: 0_ _ _ _ _ _	**Northing:** _ _ _ _ _ _ _
Benchmark Description:	

Note: Survey control points can be found online at http://www.maine.gov/mdot/mapviewer/dataviewer/Index.html?app=survey

CHANNEL INFORMATION

Low Tide Time:	**Low Tide Height:**
High Tide Time:	**High Tide Height:**
Channel Width(U/S):	**Channel Width(D/S):**
Scour Pool Width:	**Scour Pool Length:**
Upstream Flood Risks:	

Data Sheets: **Parcel Map with Landowner:**

Eelgrass Rapid Assessment Data Sheet

Site Name:_____ Date: _____

Field Crew: _____ Weather: _____ Tide Height:_____

Site Coordinates (Latitude, Longituge): _____

How was site accessed? (wading, kayaking, snorkeling, SCUBA, etc.)

Data/observations collected (check boxes and staple appropriate data sheets to this cover sheet)

- ☐ Site of interest GPS coordinates
- ☐ General notes/obsrvations
- ☐ Hand-drawn maps
- ☐ Notes on anthropogenic structures
- ☐ Observational eelgrass metrics
- ☐ Quadrat based eelgrass metrics
- ☐ Eelgrass phenology
- ☐ Water quality (temperature, turbidity, pH, etc.)
- ☐ Light
- ☐ Sediment characteristics
- ☐ Other (list below)
- ☐ Other data:

Were site photos taken?

☐ Yes ☐ No

If Yes, with what camera/s and how can photos be identified?

Site Notes:

Site Conclusions (need for additional surveys, an SAP, or Long-term Monitoring? What information will be provided to partners?):

Water Quality Rapid Assessment Data Sheet

Site Name:_____ Date: _____

Field Crew: _____ Weather: _____

Site Coordinates (Latitude, Longitude): _____

Site Type

☐ Fresh ☐ Brackish ☐ Marine Tide Height: _____

Data/observations collected (check boxes and staple appropriate data sheets to this cover sheet)

- ☐ Site of interest GPS coordinates
- ☐ General notes/obsrvations
- ☐ Hand-drawn maps
- ☐ Notes on anthropogenic structures
- ☐ Nutrient grab samples
- ☐ Standard probe parameters (temperature, depth, salinity/conductivity, DO, turbidity, pH, etc.)
- ☐ E. coli
- ☐ Chlorides
- ☐ Sediment characteristics
- ☐ Plankton/algae sample
- ☐ Other (list below)
- ☐ Other data:

Were site photos taken?

☐ Yes ☐ No

If Yes, with what camera/s and how can photos be identified?

Site Notes (include a description of what equipment was used for any quantitative data collection):

Site Conclusions (need for additional surveys, an SAP, or Long-term Monitoring? What information will be provided to partners?):

CROSS SECTION DATA SHEET

CROSS SECTION INFORMATION

Site Name:		**Station #:**	**Date:**	**Time:**
Observers:	Stadia rod:		Auto level/recorder:	
Photo #s:	River R _ _ _ _ River L _ _ _ _ Upstream _ _ _ _ Downstream _ _ _ _ Other _ _ __			

BENCHMARKS/TIE-INS TO OTHER CROSS SECTIONS

BM/Station	Lo	Mid	Hi	Angle α	Type	Notes
					FS BS	
					FS BS	
Height of instrument calculated from benchmarks, in office:					**NAVD88? Yes / No**	

SKETCH CHANNEL CROSS SECTION (VIEW TO DOWNSTREAM)

River Left

River Right

Provide a sketch of the general form of the channel, showing approximate location of stakes marking the ends of the cross section. Indicate areas where additional measurements may need to be made to capture geometry.

SKETCH CHANNEL MORPHOLOGY PLAN VIEW

Upstream

Downstream

Provide a sketch of the general form of the channel about 10 stream widths upstream and downstream of the cross section. Show approximate location of the cross section, vegetation transect and wells. Sketch significant debris, plant growth, deep pools or other features.

CROSS SECTION MEASUREMENTS

Station:	**Date:**	**Observers:**
Ref. Elevation (BM, XS tie-in), stadia rod:		**BM/Tie-In Notes:**

Transect Location		**Stadia Rod Reading (dec. ft.)**	**Description** (high/low transition, top bank, base bank, thalweg, etc.)
Start	Monument, XS#_ _ _ UTM: 4 2 _ _ _ _ E 4 8 _ _ _ _ _ N Distance on transect: ____		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
End	Monument, XS#_ _ _ UTM: 4 2 _ _ _ _ E 4 8 _ _ _ _ _ N Distance on transect: ____		

LONGITUDINAL PROFILE SURVEY DATA SHEET

Site Name:			**SITE ID#**
Town, State:			**Waterbody:**
Pre-restoration Post-restoration (circle one)			**Date & Time:**
Form completed by:			**Stadia rod:**
Upstream end (UTM)	**E**	**N**	
Downstream end (UTM)	**E**	**N**	

BENCHMARKS

Station	Lo	Mid	Hi	Angle α	Location (UTM)	
					E	**N**
					E	**N**
					E	**N**
					E	**N**
					E	**N**
					E	**N**

LONGITUDINAL MEASUREMENTS

	Distance (ft.)	Lo	Mid	Hi	Angle α	Notes
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

	Distance (ft.)	Lo	Mid	Hi	Angle α	Notes
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						

TOTAL STATION SET UP – FIELD FORM

LIVING SHORELINES SITE INFORMATION

Site Name:		**Date/Time:**		**Station #:**	
Purpose:					
Weather:					
Carlson Folder Location:			**File Name:**		
Location re. benchmarks:	***Strive to triangulate between 3 benchmarks. Center the TS within the triangle.***				

OBSERVERS

Total Station	**Prism Rod**	**Other**

Location	**Northing**	**Easting**	**Photo #**
Set up location (GPS)			
Secondary set up (if applicable)			
Benchmark: _____			
Benchmark: _____			
Benchmark: _____			
Calculated location of OCC1			Elevation (m):

SET UP INFORMATION

Height of instrument (m) at OCC1:		**Measured rod height at start (m):**	
Foot used on prism pole (circle one):	Rubber foot / round metal foot / pointed metal foot		

Notes:

Appendix A

Static Occupation Field Sheet

Site Name:_____

Trimble Serial Number	Trimble Model	Observers	SET/Monument Name	Date/Time Deployed	Date/Time Recovered	Antenna Height (adaptor = .25 m; rod = .25 m)	Data Downloaded? (date and initials)	Data Cleared?	RINEX File Name	OPUS Solution obtained?	Entered in Database? (date and initials)

Deployment Check List

SITE:_____

LOGGER SN:_____

LOGGER SN: _____

DEPLOYMENT DATE:_____

ONSET HOBO Loggers

Pre-Deployment

- ☐ Notation of serial number and location to be placed
- ☐ Removal of all data on loggers
- ☐ Removal of all data on shuttle
- ☐ Programming (delayed start, 6 minute intervals)

Deployment

Bring into the field:

- ☐ Clipboard with datasheets & pencil
- ☐ GPS
- ☐ Spare AA batteries
- ☐ Camera
- ☐ Stadia Rod (dec. ft)
- ☐ Auto level
- ☐ Tripod

Deployment equipment:

- ☐ Water level loggers (2)
- ☐ Conductivity loggers (2)
- ☐ USB Micro station
- ☐ Barometric pressure sensor
- ☐ Needle nose pliers
- ☐ 2 posts (short)
- ☐ ½" PVC housing (4)
- ☐ ¾" PVC housing (4)
- ☐ 6" zip-ties
- ☐ Mallet
- ☐ Homer Bucket
- ☐ Knife/scissors to cut zip-ties
- ☐ Micro station housing
- ☐ Screws for installation of micro station
- ☐ Regular screwdriver
- ☐ Refractometer
- ☐ DI Water
- ☐ Syringe & tubing
- ☐ Signs with CBEP contact info.

Retrieval

- ☐ Homer Bucket
- ☐ Knife/scissors to cut zip-ties
- ☐ Regular screwdriver
- ☐ Refractometer
- ☐ DI Water
- ☐ Syringe & tubing

Post-Deployment

- ☐ Clean loggers
- ☐ Clean housing
- ☐ Download data
- ☐ Export data to N: drive
- ☐ Correct elevation to benchmark
- ☐ Graph and QA/QC data

HOBO WATER LEVEL LOGGER DEPLOYMENT DATA SHEET

SITE INFORMATION

MCP Site ID#:	**CBEP TR ID#:**	**Waterbody:**
Town:		**Street/Structure:**

LOGGER INFORMATION

Logger S/N #:		***Location (UTM, Zone 19 N, NAD 1983):***		Easting: _ _ _ _ _ _	Northing: _ _ _ _ _ _ _
Programmed By:		**Date Programmed:**		**Logging Start Date/Time:**	
Relation to structure: Upstream / Downstream		**Note:**			**Station #:**
Site Conditions:					
Description of deployment site:				**Photo #:**	
				Photo #:	
Deployed as part of a broader data set?				**Co-located with other instruments?**	Yes / No S/N #:
General monitoring objective(s):					

Sketch Plan View

Upstream	Downstream

Provide a simple sketch of the general form of the channel upstream and downstream of the deployment location. Show location of the logger in relation to the road/structure. Sketch significant features.

ACTIVITY LOG

Date / Time:	**Action:**	**Personnel:**	**Notes:**
	☐ Deployment ☐ Water level check ☐ Cleaning ☐ Data download ☐ Retrieval		
Surveyed stadia rod measurements			
Benchmark elevation:	Start: ____ (ft.) @ ___:___ (time)	**Benchmark description:**	
Water surface (twice, at least 6 minutes apart)**:**	____ (ft.) @ ___:___ (time) ____ (ft.) @ ___:___ (time)	**Channel bottom** (at instrument):	____ (ft.) @ ___:___ (time)

Date / Time:	**Action:**	**Personnel:**	**Notes:**
	☐ Deployment ☐ Water level check ☐ Cleaning ☐ Data download ☐ Retrieval		
Surveyed stadia rod measurements			
Benchmark elevation:	Start: ____ (ft.) @ ___:___ (time)	**Benchmark description:**	
Water surface (twice, at least 6 minutes apart)**:**	____ (ft.) @ ___:___ (time) ____ (ft.) @ ___:___ (time)	**Channel bottom** (at instrument):	____ (ft.) @ ___:___ (time)

Casco Bay Estuary Partnership

HOBO WATER LEVEL LOGGER DEPLOYMENT DATA SHEET

ACTIVITY LOG

Date / Time:	**Action:**	**Personnel:**	**Notes:**
	☐ Deployment ☐ Water level check ☐ Cleaning ☐ Data download ☐ Retrieval		
Surveyed stadia rod measurements			
Benchmark elevation:	Start: ____ (ft.) @ ___:___ (time)	**Benchmark description:**	
Water surface (twice, at least 6 minutes apart)**:**	____ (ft.) @ ___:___ (time) ____ (ft.) @ ___:___ (time)	**Channel bottom** (at instrument):	____ (ft.) @ ___:___ (time)

Date / Time:	**Action:**	**Personnel:**	**Notes:**
	☐ Deployment ☐ Water level check ☐ Cleaning ☐ Data download ☐ Retrieval		
Surveyed stadia rod measurements			
Benchmark elevation:	Start: ____ (ft.) @ ___:___ (time)	**Benchmark description:**	
Water surface (twice, at least 6 minutes apart)**:**	____ (ft.) @ ___:___ (time) ____ (ft.) @ ___:___ (time)	**Channel bottom** (at instrument):	____ (ft.) @ ___:___ (time)

POST-DEPLOYMENT NOTES / OBSERVATIONS (QA/QC, ETC.)

HOBO CONDUCTIVITY/SALINITY LOGGER DEPLOYMENT DATA SHEET

SITE INFORMATION

MCP Site ID#:	**CBEP TR ID#:**	**Waterbody:**
Town:		**Street/Structure:**

LOGGER INFORMATION

Logger S/N #:		***Location (UTM, Zone 19 N, NAD 1983):***		Easting: _ _ _ _ _ _	Northing: _ _ _ _ _ _ _	
Programmed By:		**Date Programmed:**		**Logging Start Date/Time:**		
Sample frequency:		**Relation to structure:**		Upstream / Downstream	**Station #:**	
Site Conditions:						
Description of deployment site:				**Photo #:**		
				Photo #:		
Deployed as part of a broader data set?				**Co-located with other instruments?**	S/N #:	
General monitoring objective(s):						

Sketch Plan View

Provide a simple sketch of the general form of the channel upstream and downstream of the deployment location. Show location of the logger in relation to the road/structure. Sketch significant features.

ACTIVITY LOG

Date / Time:	Action:	Personnel:	Notes:

HOBO CONDUCTIVITY/SALINITY LOGGER DEPLOYMENT DATA SHEET

ACTIVITY LOG

Date / Time:	Action:	Personnel:	Notes:
	Deployment Salinity/conductivity check Cleaning Retrieval		
Refractometer (calibrated) – measured salinity/conductivity @ time (up to twice, at least 6 min. apart):		____ (PPT) @ ___:___ (time) ____ (PPT) @ ___:___ (time)	
Spot conductivity (calibrated) – @ time **Instrument:**_____ **Take reading at 6 min. interval from top of hour**		Time: ____:____ Water Temp (C):____ Conductivity @ logger (uS/cm):_____ Sp. Conductivity @ logger (uS/cm):_____	

Date / Time:	Action:	Personnel:	Notes:
	Deployment Salinity/conductivity check Cleaning Retrieval		
Refractometer (calibrated) – measured salinity/conductivity @ time (up to twice, at least 6 min. apart):		____ (PPT) @ ___:___ (time) ____ (PPT) @ ___:___ (time)	
Spot conductivity (calibrated) – @ time **Instrument:**_____ **Take reading at 6 min. interval from top of hour**		Time: ____:____ Water Temp (C):____ Conductivity @ logger (uS/cm):_____ Sp. Conductivity @ logger (uS/cm):_____	

Date / Time:	Action:	Personnel:	Notes:
	Deployment Salinity/conductivity check Cleaning Retrieval		
Refractometer (calibrated) – measured salinity/conductivity @ time (up to twice, at least 6 min. apart):		____ (PPT) @ ___:___ (time) ____ (PPT) @ ___:___ (time)	
Spot conductivity (calibrated) – @ time **Instrument:**_____ **Take reading at 6 min. interval from top of hour**		Time: ____:____ Water Temp (C):____ Conductivity @ logger (uS/cm):_____ Sp. Conductivity @ logger (uS/cm):_____	

POST-DEPLOYMENT NOTES / OBSERVATIONS (RAINFALL, QA/QC, ETC.)

HOBO BARO-LOGGER DEPLOYMENT DATA SHEET

SITE INFORMATION

MCP Site ID#:		**CBEP TR ID:**		**Waterbody:**	
Town:				**Street/Structure:**	

LOGGER INFORMATION

Micro Station S/N #:		***Location (UTM, Zone 19 N, NAD 1983):***		Easting: _ _ _ _ _ _	Northing: _ _ _ _ _ _ _
Sensor S/N #:		**Deployed by:**		**Logging Start Date/Time:**	
Site Conditions:					
Description of deployment site:				**Photo #:**	
				Photo #:	
Deployed as part of a broader data set?				**Co-located with other instruments?**	Yes / No S/N #:
General monitoring objective(s):					

Sketch Plan View

Provide a simple sketch of the general form of the channel upstream and downstream of the deployment location. Show location of the logger in relation to the road/structure. Sketch significant features.

ACTIVITY LOG

Date / Time:	**Action:**	**Personnel:**	**Notes:**

POREWATER SALINITY DATA SHEET

GENERAL INFORMATION					
Observer		**Recorder:**		**Date:**	
Precip. Last 48 hrs:		**Predicted low tide time @ Portland Station:**			
Current weather:			**Tide Phase (spring/neap):**		
Notes:					

PORE WATER SALINITY					
Station	**Location**	**TIME** (24 HR)	**SALINITY READING** (PPT)	**TIDE DIRECTION** (INCOMING/ OUTGOING)	**NOTES**
			‰		
			‰		
			‰		
			‰		
			‰		
			‰		
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			‰		
			‰		

FAUNAL OBSERVATIONS (Species, number, behavior, location)

VEGETATION TRANSECT COVER SHEET

STATION INFORMATION

Site Name:		**Date/Time:**		**Station #:**	
Weather:					
Notes (wildlife, invasives, etc.):					

OBSERVERS

Plant ID	**Recorder**	**Other**

VEGETATION TRANSECT

Number of plots sampled:		**Direction** (magnetic; channel → upland)	
Transect start @ channel, ft.:		**Transect end @ upland, ft.:**	
If transect start is not zero, explain:			
Side of marsh:		**Distance between plots:**	

GPS COORDINATES; (UTM, ZONE 19 N, NAD 1983)

Location	**Easting**	**Northing**
Transect start at channel	4 2 _ _ _ _	4 8 _ _ _ _ _
Transect end at upland	4 2 _ _ _ _	4 8 _ _ _ _ _
Other: _____	4 2 _ _ _ _	4 8 _ _ _ _ _
Other: _____	4 2 _ _ _ _	4 8 _ _ _ _ _

PHOTOS @ STATION (LANDSCAPE ORIENTATION)

Location	**Photo #**
Transect start at channel:	
Transect end at upland:	
Other: _____	
Other: _____	
Other: _____	

2024 VEGETATION PLOT DATA SHEET – P.1

Sequence: _____

Location / Site		**Date:**	
Station #:		**Time:**	
Observers:			

Plot #:		**Distance from channel:**		
Plot Comments:				
Plant Code	**Percent Cover**	**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**		
Plot Comments:				
Plant Code	**Percent Cover**	**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**		
Plot Comments:				
Plant Code	**Percent Cover**	**Plant Code**	**Percent Cover**	**Notes**

VEGETATION PLOT DATA SHEET – P.2

Location / Site			
Station #:		**Time:**	
Observers:			

Sequence: _____

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

VEGETATION PLOT DATA SHEET – P.3

Location / Site			
Station #:		**Time:**	
Observers:			

Sequence: _____

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

VEGETATION PLOT DATA SHEET – P.4

Location / Site			
Station #:		**Time:**	
Observers:			

Sequence: _____

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

Plot #:		**Distance from channel:**			
Plot Comments:					
Plant Code	**Percent Cover**		**Plant Code**	**Percent Cover**	**Notes**

PLANT SPECIES CODES - 2017

Plant Species	Code	Plant Species	Code	Plant Species	Code
Abies balsamea	ABBA	Galium trifidum	GATR	Quercus rubra	QURU
Acer rubrum	ACRU	Gaylussacia baccata	GABA	Ranunculus cymbalaria	RACY
Agrostis stolonifera	AGST	Glaux maritima	GLMA	Ribes hirtellum	RIHI
Alnus incana	ALIN	Glyceria canadensis	GLCA	Rosa palustris	ROPA
Argentina anserina	ARAN	Glyceria grandis	GLGR	Rubus hispidus	RUHI
Atriplex prostrata	ATPR	Hordeum jubatum	HOJU	Rubus sp.	RUSP
Betula populifolia	BEPO	Hypericum mutilum	HYMU	Rumex pallidus	RUPA
Bolboschoenus maritimus	BOMA	Ilex verticillata	ILVE	Ruppia maritima	RUMA
Calamagrostis canadensis	CACA	Impatiens capensis	IMCA	Salicornia depressa	SADE
Calla palustris	CLPA	Iris versicolor	IRVE	Schoenoplectus acutus	SCAC
Calystegia sepium	CASE	Juncus arcticus	JUAR	Schoenoplectus pungens	SCPU
Carex comosa	CACO	Juncus effusus	JUEF	Scirpus pendulus	SCPE
Carex crinita	CACR	Juncus gerardii	JUGE	Scirpus sp.	SCSP
Carex gynandra	CAGY	Juncus marginatus	JUMA	Scutellaria galericulata	SCGA
Carex hormathodes	CAHO	Juncus sp.	JUSP	Solanum dulcamara	SODU
Carex hystericina	CAHY	Juniperus communis	JUCO	Solidago altissima	SOAL
Carex lacustris	CALA	Lathyrus tuberosus	LATU	Solidago sempervirens	SOSE
Carex lurida	CALU	Leersia oryzoides	LEOR	Sparganium americanum	SPAM
Carex nigra	CANI	Lemna minor	LEMI	Spartina alterniflora	SPAL
Carex paleacea	CAPA	Limonium carolinianum	LICA	Spartina patens	SPPA
Carex saxatilis	CASA	Ludwigia palustris	LUPA	Spartina pectinata	SPPE
Carex scoparia	CASC	Lycopus americanus	LYAM	Spiraea alba	SPLA
Carex sp.	CASP	Lycopus uniflorus	LYUN	Spiraea tomentosa	SPTO
Carex stipata	CAST	Lysimachia terrestris	LYTE	Suaeda maritima	SAMA
Carex trisperma	CATR	Lythrum salicaria	LYSA	Symphyotrichum novi-belgii	SYNB
Carex utriculata	CAUT	Maianthemum canadense	MACA	Symphyotrichum subulatum	SYSU
Cicuta bulbifera	CIBU	Onoclea sensibilis	ONSE	Taraxacum officinale	TAOF
Cladium mariscoides	CLMA	Osmunda cinnamomea	OSCI	Thalictrum dioicum	THDI
Distichlis spicata	DISP	Osmunda regalis	OSRE	Thelypteris palustris	THPA
Drosera rotundifolia	DRRO	Panicum dichotomiflorum	PADI	Toxicodendron radicans	TORA
Dryopteris cristata	DRCR	Panicum sp.	PASP	Triglochin maritima	TRMA
Dulichium arundinaceum	DUAR	Persicaria arifolia	PEAR	Typha angustifolia	TYAN
Eleocharis palustris	ELPA	Persicaria sagittata	PESA	Typha latifolia	TYLA
Eleocharis sp.	ELSP	Phragmites americanus	PHAM	Typha x glauca	TYGL
Elymus pycnanthus	ELPY	Phragmites australis	PHAU	Utricularia sp.	UTSP
Elymus repens	ELRE	Picea glauca	PIGL	Vaccinium corymbosum	VACO
Elymus virginicus	ELVI	Picea rubens	PIRU	Vaccinium macrocarpon	VAMA
Epilobium leptophyllum	EPLE	Pinus strobus	PIST	Verbena hastata	VEHA
Equisetum pratense	EQPR	Plantago maritima	PLMA	Viola pallens	VIPA
Eragrostis pectinacea	ERPE	Poa palustris	POPA		
Euthamia graminifolia	EUGR	Polygonacea sp.	POSP		
Festuca rubra	FERU	Populus grandidentata	POGR		
Galium asprellum	GAAS	Populus tremuloides	POTR		
Galium palustre	GAPA	Proserpinaca palustris	PRPA		
Galium sp.	GASP	Puccinellia tenella	PUTE		

PLANT SPECIES CODES - 2017

Common Species	Codes
Agrostis stolonifera	AGST
Argentina anserina	ARAN
Atriplex prostrata	ATPR
Bolboschoenus maritimus	BOMA
Calystegia sepium	CASE
Carex paleacea	CAPA
Distichlis spicata	DISP
Festuca rubra	FERU
Hypericum mutilum	HYMU
Juncus arcticus	JUAR
Juncus gerardii	JUGE
Limonium carolinianum	LICA
Lysimachia terrestris	LYTE
Plantago maritima	PLMA
Proserpinaca palustris	PRPA
Ruppia maritima	RUMA
Salicornia depressa	SADE
Schoenoplectus acutus	SCAC
Schoenoplectus pungens	SCPU
Solidago sempervirens	SOSE
Spartina alterniflora	SPAL
Spartina patens	SPPA
Spartina pectinata	SPPE
Suaeda maritima	SAMA
Symphyotrichum novi-belgii	SYNB
Triglochin maritima	TRMA
Typha angustifolia	TYAN
Typha latifolia	TYLA

Other Codes	Codes
Log / Woody Debris	Log
Litter	Litr
Moss	MOSS
Sphagnum	SPSP
Open Water	OpnW
Panne	Pann
Wrack	Wrck

Unknown Species	Code
Unknown Forb	UnFo
Unknown Grass	UnGr
Unknown Unspecified	UnSp

INVASIVE PLANTS / PLANT SPECIES OF CONCERN

- ☐ Small tape reel (100m)
- ☐ Invasive plants monitoring forms, clipboard, pencil
- ☐ Digital camera
- ☐ Flagging tape
- ☐ Handheld GPS
- ☐ Invasive plant identification binder, and invasive/native Phragmites binder
- ☐ Map of marsh in plastic protector
- ☐ Box of Ziploc bags for samples, seed heads
- ☐ Black Sharpie to label plastic bags
- ☐ Pruning shears to cut off seed heads
- ☐ Magnifying glass on lanyard

Invasive Plants Monitoring Form

Page:__ of __

SITE VISIT INFORMATION

Site name & location:		**Date:**	
Start time:		**End time:**	
Participants:			
GPS model used: (check)	☐ Garmin etrex 10 ☐ Garmin GPSmap 76CSx ☐ Other:	**Camera used:** (check)	☐ Nikon *CoolPix W300* ☐ Other: ☐ Canon *Powershot SD750* ☐ Olympus *Stylus Tough* ☐ Cell phone:
Objective / notes:			

OBSERVATION

Plant species: (check all that apply)	☐ *Phragmites australis* ☐ Native *Phragmites* suspected ☐ *Lythrum salicaria* ☐ Other:		
# of plants/stems: (estimate)	☐ 0 – 10, ☐ 11 – 25, ☐ 25 – 50, ☐ 50 – 100, ☐ > 100 If > 50, take multiple GPS points around the perimeter		
Seed heads or flowers present? Y/N		**Height range of plants:**	
GPS ID number(s):		**Photo number(s)** (or time taken):	
GPS Coordinates: (UTM, Zone 19N, NAD 1983)	Easting: 042_ _ _ _ Northing 48 _ _ _ _ _		
Location in marsh (station, river right/left, upland edge, etc.):			
Site conditions (nearby vegetation, pool/panne, etc.):			
Notes:			

OBSERVATION

Plant species: (check all that apply)	☐ *Phragmites australis* ☐ Native *Phragmites* suspected ☐ *Lythrum salicaria* ☐ Other:		
# of plants/stems: (estimate)	☐ 0 – 10, ☐ 11 – 25, ☐ 25 – 50, ☐ 50 – 100, ☐ > 100 If > 50, take multiple GPS points around the perimeter		
Seed heads or flowers present? Y/N		**Height range of plants:**	
GPS ID number(s):		**Photo number(s)** (or time taken):	
GPS Coordinates: (UTM, Zone 19N, NAD 1983)	Easting: 042_ _ _ _ Northing 48 _ _ _ _ _		
Location in marsh (station, river right/left, upland edge, etc.):			
Site conditions (nearby vegetation, pool/panne, etc.):			
Notes:			

Invasive Plants Monitoring Form

Page:__ of __

OBSERVATION

Plant species: (check all that apply)	☐ *Phragmites australis* ☐ Native *Phragmites* suspected ☐ *Lythrum salicaria* ☐ Other:	
# of plants/stems: (estimate)	☐ 0 – 10, ☐ 11 – 25, ☐ 25 – 50, ☐ 50 – 100, ☐ > 100 If > 50, take multiple GPS points around the perimeter	
Seed heads or flowers present? Y/N	**Height range of plants:**	
GPS ID number(s):	**Photo number(s)** (or time taken):	
GPS Coordinates: (UTM, Zone 19N, NAD 1983)	Easting: 042_ _ _ _ Northing 48 _ _ _ _ _	
Location in marsh (station, river right/left, upland edge, etc.):		
Site conditions (nearby vegetation, pool/panne, etc.):		
Notes:		

OBSERVATION

Plant species: (check all that apply)	☐ *Phragmites australis* ☐ Native *Phragmites* suspected ☐ *Lythrum salicaria* ☐ Other:	
# of plants/stems: (estimate)	☐ 0 – 10, ☐ 11 – 25, ☐ 25 – 50, ☐ 50 – 100, ☐ > 100 If > 50, take multiple GPS points around the perimeter	
Seed heads or flowers present? Y/N	**Height range of plants:**	
GPS ID number(s):	**Photo number(s)** (or time taken):	
GPS Coordinates: (UTM, Zone 19N, NAD 1983)	Easting: 042_ _ _ _ Northing 48 _ _ _ _ _	
Location in marsh (station, river right/left, upland edge, etc.):		
Site conditions (nearby vegetation, pool/panne, etc.):		
Notes:		

OBSERVATION

Plant species: (check all that apply)	☐ *Phragmites australis* ☐ Native *Phragmites* suspected ☐ *Lythrum salicaria* ☐ Other:	
# of plants/stems: (estimate)	☐ 0 – 10, ☐ 11 – 25, ☐ 25 – 50, ☐ 50 – 100, ☐ > 100 If > 50, take multiple GPS points around the perimeter	
Seed heads or flowers present? Y/N	**Height range of plants:**	
GPS ID number(s):	**Photo number(s)** (or time taken):	
GPS Coordinates: (UTM, Zone 19N, NAD 1983)	Easting: 042_ _ _ _ Northing 48 _ _ _ _ _	
Location in marsh (station, river right/left, upland edge, etc.):		
Site conditions (nearby vegetation, pool/panne, etc.):		
Notes:		

Feldspar Marker Horizon Accretion Measurement Data Sheet

Site Name:_____ **Date:** _____

Field Crew: _____ **Weather:** _____

Site Coordinates (Latitude, Longitude): _____

Samples Collected By: _____

Recorded By: _____

Sampling Method: ☐ Cut Plug ☐ Core

**All measurements should be recorded in mm **

Each row is a single core with three measurements with paired (top and bottom) readings

	Core 1		Core 2		Core 3		# of	Core	
Plot ID	Top	Bottom	Top	Bottom	Top	Bottom	Attempts	Quality	Notes

Core Quality Codes: (P) poor, (O) OK, (G)G good, (E) excellent, (NR) no recovery

Excellent - Bright feldspar, thick layer

Good - Feldspar clearly evident, layer moderately thick

OK - Feldspar present, layer very thin

Poor - Feldspar present but hard to see, spotty distribution

Comments:

Saltmarsh Vegetation Datasheet

Date:	Site:
Observer:	Transect
Easting: Northing:	Point ID:

Vegetation Cover within 1 sq. m (estimated % composition)

Species	***% Cover***
Total	=_____%

Canopy Heights (measured at the midpoint of each side and at plot center)

	Midpoint of side	***Midpoint of side***	***Midpoint of side***	***Midpoint of side***	***Plot Center***
Avg. Ht. Veg Crown (cm)					
Tallest Ht. (sp. + cm)					
Thatch (cm)					

Photo taken? (y/n) _____ **Photo stored?** (y/n) _____

Is this plot in any of the following :

_____ **Ditch**

_____ **Megapool**

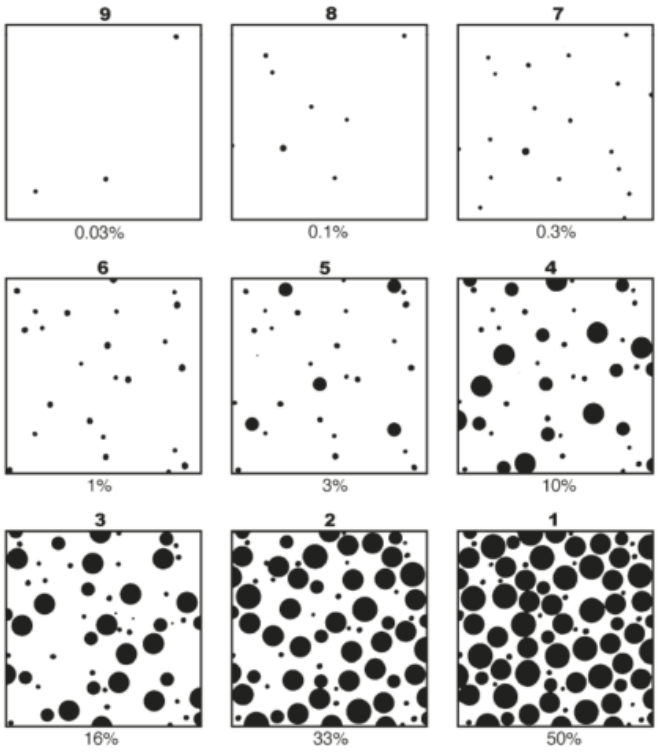
_____ **Microtopography Mound**

Saltmarsh Vegetation Datasheet - Quick Notes

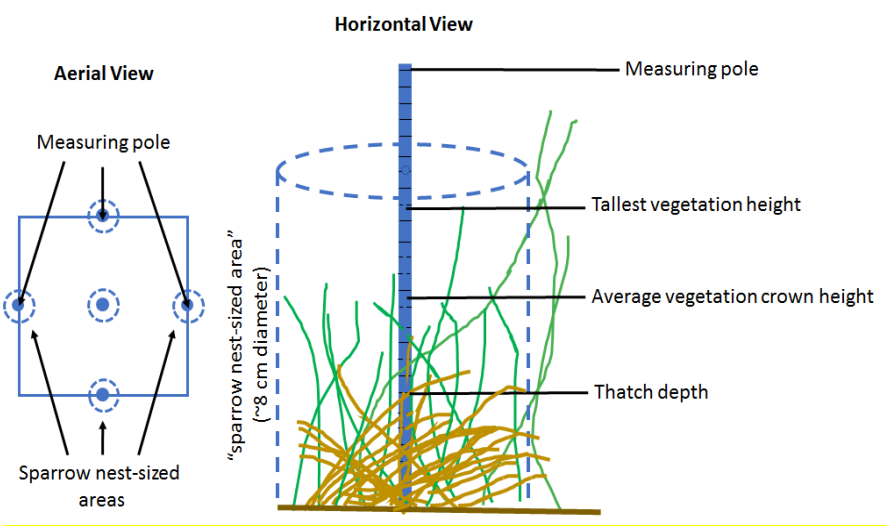
Veg cover types:

- Wrack
- Algae
- Unvegetated
  - UVBare
  - UVDead
  - UVOther
  - UVRock
  - UVWood
- Water
- Spartina patens
- Spartina alterniflora
- Distichlis spicata
- Juncus sp.
- Iva / Baccharis sp.
- Phragmites australis
- Salicornia sp.
- Other

Percent Cover Visual Guideline



Canopy Height Measurements:



Transect_Plot	Species	Percent Cover	Notes	Picture?
Runnel 2_ Mound 4	SPAL	15	SPAL = Spartina alterniflora	Y
Runnel 2_Mound 4	SPPA	45	SPPA = Spartina patens	
Runnel 2_Mound 4	Bare Ground	30		
Runnel 2_Mound 4	DISP	10	DISP = Distichlis spicata	

Site: _____

Date: _____ Field Crew: _____

Transect ID/Location: _____ **Transect Start Time:** _____

Quad Locations					
Quad photo taken?					
% cover eelgrass (/ 0.25 m^2)					
% cover macroalgae (/0.25 m^2)					
Density (/ 0.25 m^2)					
Canopy Height (m) (80% shoots/ handful x 4)					
# Reproductive Shoots					
Biomass sample taken (3 shoots)?					

Notes:

Transect ID/Location: _____ **Transect Start Time:** _____

Quad Locations					
Quad photo taken?					
% cover eelgrass (/ 0.25 m^2)					
% cover macroalgae (/0.25 m^2)					
Density (/ 0.25 m^2)					
Canopy Height (m) (80% shoots/ handful x 4)					
# Reproductive Shoots					
Biomass sample taken (3 shoots)?					

Notes:

Site: _____

Date: _____ Field Crew: _____

Transect ID/Location: _____ **Transect Start Time:** _____

Quad Locations					
Quad photo taken?					
% cover eelgrass (/ 0.25 m^2)					
% cover macroalgae (/0.25 m^2)					
Density (/ 0.25 m^2)					
Canopy Height (m) (80% shoots/ handful x 4)					
# Reproductive Shoots					
Biomass sample taken (3 shoots)?					

Notes:

Transect ID/Location: _____ **Transect Start Time:** _____

Quad Locations					
Quad photo taken?					
% cover eelgrass (/ 0.25 m^2)					
% cover macroalgae (/0.25 m^2)					
Density (/ 0.25 m^2)					
Canopy Height (m) (80% shoots/ handful x 4)					
# Reproductive Shoots					
Biomass sample taken (3					

Notes:

Site information datasheet

Site Name:_____
Site Address:_____
Lat (dd.dddd°):_____
Long (dd.dddd°):_____
Organization:_____

Access Notes:_____
_____
_____

Site Location Type
Tidal River ____ Embayment ____ Open Ocean____
Other _____

Bottom Type (*select all that apply*)
Mud_____Sand____Silt_____Gravel_____Shell hash____
Other _____

Meadow Characteristics
Sparse___Dense___Patchy___Mixed___ Other:_____
Stressed___Healthy___Other:_____

Describe meadow size, shape, stressors present, etc.:
_____
_____
_____

Sketch of meadow and sampling sites

Assessment A: Seed maturity data sheet

Site Name:______________________________ Sample **Collection** Date/Time:____________________
Sample Scorer Names:____________________ Sample **Scoring** Date/Time:______________________
Org Name & Contact:____

Sample (shoot) *Values: 1-5*	**Rhipidium** *Values: 1 - x* (1 is lowest on plant)	**Spathe Stage** *Values: 0-6, UNK* (Separate by comma, include as many spathes as present)	**Notes**

Assessment B: Quadrat sampling datasheet

Site Name:_____ Date:_____
Sampler Names:_____ Time:_____
Org Name:_____ Water Temp:_____

Quadrat size used: 1 m^2_____ 0.25 m^2_____ 0.0625 m^2_____ Other:_____

Quadrat placement strategy: Random_____ Directed_____ Transect_____
Other:_____

Quadrat Number	Repro Shoot Count	Vegetative Shoot Count *optional*		Quadrat Number	Repro Shoot Count	Vegetative Shoot Count *optional*

Notes:_____
_____
_____

Assessment C: Seed density data sheet (once per year)

Site Name:_____ Sample **Collection** Date/Time:_____
Sampler Names:_____ Sample **Processing** Date/Time:_____
Org Name & Contact:_____

Sample (shoot) *Values: 1-5*	**Rhipidium** *Values: 1-x* (1 is lowest on plant)	**# Seeds per Spathe** *Values: 0-x* (Separate by comma, include as many spathes as present)	**Notes**

2024-2025 Maine Sea Grant
Community Partner Trapping Datasheet

Organization: _____ Trap ID: _____ Location: _____

Habitat (select): *Subtidal- Dock* / *Subtidal- Boat* / *Marsh Pool* / *Marsh Creek* / *Other:*_____

Estimated Water Depth (m): _____ Latitude/Longitude: _____

Grayed columns are optional

Date Set	Date Pulled	# Blue Crabs	# Green Crabs	Temp (ºC)	Salinity (ppt)	DO (mg/L)	Site/Trap Notes

Date	Carapace Width (**mm**)	Sex **M**/**F**	Female Maturity **A**dult/**J**uvie/ **O**vigerous	Notch/Tag Present? (**yes**/**no**)	Tag ID	Crab Notes

ROYAL RIVER, YARMOUTH, ME – OBSERVATIONS OF RIVER HERRING PRESENCE/ABSENCE AND BEHAVIOR

OBSERVER:	**DATE:**
START TIME:	**FINISH TIME:**
ROYAL RIVER GAGE READING (gage height, feet):	**PORTLAND HIGH TIDE HEIGHT/TIME:**
WEATHER (current and preceding)	

MONITORING LOCATION	MEASURE	2025	2026	2027	COMMENTS (Photo #, predator observations, behavior, etc.)
FIRST FALLS (below – head of tide)	Present (P)/ Absent (A)				
FIRST FALLS (above)	Present (P)/ Absent (A)				
BRIDGE ST DAM (below)	Present (P)/ Absent (A)				
BRIDGE ST DAM (above)	Present (P)/ Absent (A)				
MIDDLE FALLS (below)	Present (P)/ Absent (A)				
MIDDLE FALLS (above)	Present (P)/ Absent (A)				
E. ELM ST DAM (below)	Present (P)/ Absent (A)				
E ELM ST DAM (above)	Present (P)/ Absent (A)				
OTHER:	Present (P)/ Absent (A)				

SAMPLE CHAIN OF CUSTODY FORM

Date of Sample Collection: Click or tap to enter a date. **Person Collecting Samples:** Click or tap here to enter text.

Sample #	Description of Sample (Source / Condition)

Date and Time	Released by (Name / affiliation / Initials)	Received Storage Condition	Received by (Name / Affiliation Initials)	New Location / Comments
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		

Tracks Custody and Sample Storage Conditions for Water Samples Collected ON One Collection Trip

Date and Time	**Released by** (Name / affiliation / Initials)	**Received Storage Condition**	**Received by** (Name / Affiliation Initials)	**New Location / Comments**
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		
		☐ On Ice ☐ Warm ☐ Frozen ☐ Other		