Forage Fish Spawning Beach Survey

MARRI
Mount Arrowsmith Biosphere Region Research Institute

VANCOUVER ISLAND UNIVERSITY

Location Code (Refer to document)

Region	Municipality	Beach	DFO Mngt Area

Last High Tide

Time (24hr):
Elevation:

2nd Effective High Tide

Time (24hr):
Elevation:

Samplers

Name(s)	
Organization	
Date (mm/dd/yy)	
Time (24hr)	
Camera ID	

Current Conditions

Air Temp (°C)	
Wind Direction	
Wind Speed (km/hr)	
Water Temp (°C)	

Sediment Sample Collection

Sample Station #	Sample #	Time (24hr)	UTM (m)	Beach	Backshore	Width (m)	Length (< or > 100m)	Landmark Object*	Landmark Distance (m)	Shading	Sample Type	Photo #

Comments

(Examples: What does the property surrounding the sample site look like? Is there anything around the site that could negatively impact the survival of forage fish embryos? Have there been any recent storm events or human actions that could have impacted forage fish embryo survival or dispersal?)

**Note: Your landmark distance may change each time you are at the beach depending on weather and tide conditions. Use the initial document with all the beaches as your reference for landmark.*

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Field Observation Sampling Codes

Last High Tide refers to the most recent high tide that occurred. *Use http://waterlevels.gc.ca for tide charts.*

2nd Effective High Tide refers to the high tide that occurred prior to the last one, if it was greater in size then the most recent one. There will not always be a 2nd effective high tide.

Current Conditions (air temp, wind direction, & wind speed) can be obtained using the *Weather Underground* app, which can be downloaded onto your mobile phone (https://www.wunderground.com/weather-app).

Water Temperature will be measured with your thermometer in the sample kit. Leave the thermometer in non-stagnant water for 60 seconds and then record the value.

Beach: Dominant sediment character of the beach

0 = silt and mud (<0.0625 mm, feels "slimy")
1 = pure sand (0.0625 mm – 2.0 mm, feels "gritty")
2 = pea gravel (2.0 mm – 4.0 mm, "fine gravel") with sand base
3 = pebble gravel (4.0 mm – 64.0 mm) with sand base
4 = cobble gravel (64.0 mm – 256.0 mm) with sand base
5 = boulder gravel (256.0 mm – 4096.0 mm) with sand base
6 = boulders (>4096.0 mm) with sand base
7 = gravel to boulders without sand base
8 = bedrock, no habitat

Backshore: Integrity of uplands (up to 30m of high water mark)

1 = natural, 0% impacted
2 = 25% impacted
3 = 50% impacted
4 = 75% impacted
5 = 100% impacted

Width of the potential spawning substrate band to the nearest metre. Judged by character of substrate and presence of spawn, when possible.

Length of the beach. Using your best judgement, determine if the length of the beach with similar substrate is less than (<) or greater than (>) 100m.

Landmark Object: Note a landmark object in the uplands area that is parallel to the sample zone transect. This will be the object from which you measure the "Sample Zone" distance from. Ensure that the object chosen is a permanent structure.

Landmark Distance: Distance of sample zone transect to the landmark, in metres to the nearest 0.5 metre. This will be used in order to repeat a sampling event in the exact same location.

Shading: Amount of spawning substrate zone that is shaded, averaging over the entire length of the beach station. Consider the best interpretation for the entire day and season.

1 = fully exposed
2 = 25% shaded
3 = 50% shaded
4 = 75% shaded
5 = 100% shaded

Sample Type: S = Scoop or B = Bulk
If eggs are visible to the naked eye it is only necessary to take a single 500mL scoop of sediment to be processed. In all other cases a bulk sample is to be collected.

Photos: Take 6 photos standing at the centre of the sample transect.
***Photo 1:** Completed sample tag
***Photo 2:** Sediment w/scale at transect
Photo 3: Beach backshore
Photo 4: Beach right
Photo 5: Beach foreshore (towards water)
Photo 6: Beach left
**If multiple samples are collected at a single station, only photos 1 & 2 should be repeated for each sample.*

*****I certify that to the best of my abilities, the surveys recorded on this data sheet and the associated samples were collected and documented to the methodology instructed to me and the information I am providing are the true and accurate results of these surveys.**

Lead Signature:

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