

[BreakOutGroups_NETForce.docx - Google Docs](#)

This is an interactive document for participants to use during the workshop.

Please identify your break-out group using the Table of Contents. If you do not see your name, please contact Catalina.Gomez@dfo-mpo.gc.ca.

Please access/edit your section **only** to document and articulate your advice, evidence, citations or documents that support your contribution (experiential knowledge counts). All participants will have time to contribute to all themes during the plenary session after this break-out group activity.

DISCLAIMER: Multiple people can access and edit this document simultaneously. This document has version control so no worries if you delete information by accident as we will be able to recover information.

Contents – Break-out group participants

Break-out group 1: Stitching Information & Common Legends

Haley MacDonald, Laurence Provencher-Nolet, Serge Proulx, Jacqueline Edwards, Tracy Harvey, Beatrice Proudfoot, Ben Skinner, Rob Knight, Colleen Smith, Ian Sullivan, Brett Painter, Tammy Blair

Break-out group 2: Visualization of Uncertainty

Kristen Wilson, Luba Reshitnyk, Nadine Templeman, Sarah Cook, Melisa Wong, Brigitte Leblon, Anuradha Rao, Frances MacKinnon, Melissa Ristow, Carrie Robb, Jennifer Sylliboy, Melissa Labrador, Quentin Stoyel, Kevin Robert, Ashley Park, Matthew Fraser, Scott Coffen-Smout, Tasha Rabinowitz, Caelin Murray

Break-out group 3: Analyzing acoustic and video transect data - Producing eelgrass distribution maps

Mélanie-Louise Leblanc, Morgan Davies, Jillian Dunic, Aaron Sneep, Benedikte Vercaemer, Neil Ollerhead, Cara Harvey, Greg Moore, Ian Woolfrey, Robert Gregory, Kyle Matheson, Pascale Gosselin, Toby Balch, Sean Butler, Randy Green, Christina Pretty, Rob Underhill, Jordy Thomson

Break-out group 4: Eelgrass mapping data in the Marine Spatial Planning atlas and other open data portals (e.g., OBIS and CIOOS)

Stephane Leger, Jonathan Lefcheck, Erin Sowerby Greene, Jake Dingwall, Marlow Pellatt, Jessica Andrews, Louis David Pitre, Arnault Le Bris, Tanya Prystay, Margot Hessing-Lewis, Jake Burton, Nikita Wallia, Al Hanson, Jonathan Pye, Tyler Kydd, Heidi Van Vliet, Ricardo Llamas, Randy Milton

Break-out group 1: Stitching Information & Common Legends

[Click here to join the break-out group](#) Or call in (audio only) +1 647-484-5913 Phone Conference ID: 589 893 407#

Participants break-out group 1 (confirmation):

GIS support: Kasia Rozalska

Leader (will report back to plenary): Matt Christensen & John O'Brien

Link to workshop material: <https://sites.google.com/view/nationaleelgrasstaskforce/events/gis-technical-workshop-2021>

Link here to go back to plenary: [Click here to join the NET Force plenary session](#)

Jamboard (primarily to report back to plenary): <https://jamboard.google.com/d/1oO5mTLtJuc0jGm5PSOa1j5WiVj9vmLG8qEjOuxxgSlo/viewer?f=1>

Components and elements relevant for a national map of eelgrass distribution	Perspectives & Advice (including relevant references and material)
What are some challenges in developing common and standardized legends for diverse data types and sources (including methods of collection)?	• Point data vs line data and the uncertainty of what those data types mean in terms of extent or quality of data • Differences in presenting/interpreting raster vs. vector data • some groups just exclude data that does not have certainty or clarity on what that data means. • keep point, line and polygon data separate because the data can mean different things. i.e. a polygon can be the subtidal edge so buffering both sides of line may not be accurate. • these systems are quite dynamic and things like the shoreline edge can change significantly over time. • one approach is to get the information documented and there is value in having that information to flag that any decisions should consider that eelgrass has been documented in this area and may warrant further investigation • disclaimer to end user on limitations and suggestions for improvements as we move forward

What data attributes are the most relevant for optimal visualization of eelgrass maps?	- End-users: the more information the better (density is important for fish habitat). Even just having have presence is enough to cause further investigation for some users. - Change over time (i.e. decline or increase); general density categories is valuable enough <u>especially to see that over time</u> - how to we determine what density metric is used ? shoots/m2, percent cover, LAI, - have presence/absence and then have subset of layer that has this information; definition query for a different layer that only shows more detailed information - ESRI story maps for scale-dependent display relevant for decision-maker - More than one product and view of the data that will be persistent over time (not lapse after a sunset project) - Spatial resolution! - Substrate type and bathymetry if available?
What attributes (i.e., colour schemes, symbols, etc) for extent and point data would best distinguish among data collection methods (e.g., remote sensing, SDMs, field work, participatory science), temporal scales (e.g., data from multiple or single time points), and other differences among datasets?	● lowest common denominator info symbolized: ○ trends or multiple observations over time ○ presence vs absence ○ confidence value applied (recent year + survey type) ○ points vs polygons ● servicing data in Tiers? different levels of detail available via each Tier/class of data ● capturing as much detail as possible in a database and then only being able to visualize what is actually filled in.
How should colour schemes and symbols be optimized for accessibility?	● red green colourblindness ● some users use pink because it stands out on base maps on the shoreline (i.e. shades of pink) ● yellow can be challenging with age? ● different shades of red because it stands out ● eelgrass is symbolized in a way that really stands out as the feature of interest on the map

Break-out group 2: Visualization of uncertainty

[Click here to join the break-out group](#) Or call in (audio only) +1 647-484-5913 Phone Conference ID: 648 782 065#

Participants break-out group 2 (confirmation):

GIS Support: Phil Greyson

Leader (will report back to plenary): Javier Murillo & Jeff Barrell

Link to workshop material: <https://sites.google.com/view/nationaleelgrasstaskforce/events/gis-technical-workshop-2021>

Link here to go back to plenary: [Click here to join the NET Force plenary session](#)

Jamboard (primarily to report back to plenary): <https://jamboard.google.com/d/1oO5mTLtJuc0jGm5PSOa1j5WiVj9vmLG8qEjOuxxgSlo/viewer?f=2>

Components and elements relevant for a national map of eelgrass distribution	Perspectives & Advice (including relevant references and material)
Some of the data types contributing to NETForce include: - Traditional Ecological Knowledge (TEK) - Historical occurrence data from the literature and museum specimens - Remote sensing products (e.g., satellite, LiDAR, aerial photography, benthic sonar) - Model predictions (e.g., species distribution models)	
What are the uncertainties associated with the different mapping techniques?	Categories of uncertainty: Temporal, Spatial, Methodological, Classification
How should uncertainty/certainty be quantified and visualized?	
Should certain data types with high uncertainty be excluded from the map and what should this threshold be?	
Should historical data be included?	Identify a cut off threshold to identify current vs historical data, alternatively make sure data has a timestamp

Break-out group 3: Analyzing acoustic and video transect data: Producing eelgrass distribution maps

[Click here to join the break-out group](#) Or call in (audio only) +1 647-484-5913 Phone Conference ID: 659 425 680#

[Participants break-out group 3 \(confirmation\)](#): Aaron Cegienas, Robert Gregory, Cara Harvey, Jillian Dunic, Kyle Matheson, Rob Underhill, Melanie Louise, Neil Ollerhead, Christina Pretty, Randy, Benedikte Vercaemer, Morgan Davies, Greg Moore, Jordy Thomson

GIS Support: Brian Bower

Leader (will report back to plenary): Javier Guijarro & Eva Dickson

Link to workshop material: <https://sites.google.com/view/nationaleelgrasstaskforce/events/gis-technical-workshop-2021>

Link here to go back to plenary: [Click here to join the NET Force plenary session](#)

Jamboard (primarily to report back to plenary): <https://jamboard.google.com/d/1oO5mTLtJuc0jGm5PSOa1j5WiVj9vmLG8qEjOuxxgSlo/viewer?f=3>

Components and elements relevant for a national map of eelgrass distribution	Perspectives & Advice (including relevant references and material)
Which are the different techniques used to create habitat maps from benthic sonar and video transect data?	What is the best benthic sonar equipment? width of track is important to know to incorporate certainty in mapping. free diving to delineate edges of EG bed then kayak to take waypoints 3-5m. Then assign polygon to category of continuity/patchiness, georeferenced video with diver, go pro camera video transect- analyzed every 10 seconds, analyzed percent cover, use ordinary kriging, how to determine percent cover in a frame? Is it via grid, estimate, software-based? check 2x2m block and assign. Can be subjective, have representative photos to assist assigning values. Scale is important, density could be important to consider too, choosing your block-larger is less likely to have EG. Multi-scale analysis, similarities in slope across spatial scale 10m-200m. Cover 1-3m depth as initial coastline survey (towed underwater camera, EG Y/N, repeat waypoints) How to automate percentage cover? One at Dalhousie in early stages for all benthic cover types (collaborative project called BenthicNet... Craig Brown's

	geospatial lab involved), any others out there? Free software, not automating, called Anvil, annotating video transect data, easy to use, can set up categories incl patchy, edge, etc. BIIGLE is another option, host online
How can the percentage of eelgrass cover be best represented?	Grouping percentages into categories? Hydro QC used large categories in their mapping in James bay--Cree preferred the percentages as it gave more information. Categories don't work, depending on needs of your data, e.g. 10% might be key for fish recruitment, keep individual percent covers (e.g. above 5% and multiples of 5). All agree that categories make combining different datasets impossible, keep all percentages to make easier.
What eelgrass thresholds should be used to identify eelgrass presence/absence or percent cover classes?	Last question covers this. Less than 1 shoot per m2 with free divers, 5% per visual unit, some error on the side of anything >0 as potential presence,
How should uncertainty and measurement errors associated from the different interpolation methods be incorporated?	real value vs. predicted from the ordinary kriging as part of metadata so that people can see what that looks like? No easy way to show this visually, need to incorporate in metadata and leave the responsibility

Break-out group 4: Eelgrass mapping data in the Marine Spatial Planning Atlas and other open data portals (e.g., OBIS and CIOOS)

[Click here to join the break-out group](#) Or call in (audio only) +1 647-484-5913 Phone Conference ID: 730 429 731#

Participants break-out group 4 (confirmation): Jessica Andrews, Arnault LeBris, Jonathan Pye, Tyler Kydd, Jonathan Lefcheck, Stephane Leger, Margot Hessing-Lewis, Randy Milton, Ricardo Llamas, Erin Sowerby Greene, Tanya Prystay, Heidi Van Vliet

Leader (will report back to plenary): Steven Schut & Stephen Finnis

Link to workshop material: <https://sites.google.com/view/nationaleelgrasstaskforce/events/gis-technical-workshop-2021>

Link here to go back to plenary: [Click here to join the NET Force plenary session](#)

Jamboard (primarily to report back to plenary): <https://jamboard.google.com/d/1oO5mTLtJuc0jGm5PSOa1j5WiVj9vmLG8qEjOuxxgSlo/viewer?f=4>

Components and elements relevant for a national map of eelgrass distribution	Perspectives & Advice (including relevant references and material)
What are the similarities and differences among these different platforms? How can data be linked and interconnected?	https://www.dfo-mpo.gc.ca/science/data-donnees/obis/index-eng.html -Many options: Open Data, GBIF, OBIS, CIOOS, FRDR, iNaturalist -DOI links within metadata to cross platforms
Is one platform more optimal for the NETForce data than others?	-Best format, doesn't matter what platform -Putting external data on Open Data may be a more complicated process but important for data sharing agreements and approval -NETForce is Canadian funded, so should stick to Canadian platforms
What is the minimum metadata required so the national eelgrass map remains simple yet informative?	-Date collected, date when released, method of collection, certainty/accuracy of data, ownership of data, citations -different platforms have different minimum standards
How do metadata requirements differ across the different platforms and does this complicate data linking?	-EML (used by OBIS) can be mapped to other metadata standards -Want to avoid creating new standards

Do these platforms accept historical data?	-All the platforms can accept historical data but requires work to rescue the data -There may be gaps in the data -OBIS would require reformatting the data into DwC
Is unknown metadata and quality control an issue?	-Important to properly acknowledge contributions -QC tool: https://cioos-siooc.github.io/metadata-entry-form/#/en/hakai/new

Additional notes:

- How often will new data be added?
- Could we utilize working groups within DFO to help with metadata standards?
- When data is shared is it raw or classified data?