NORKART

Coastline sensitivity analysis – description of delivery

Version 1.0: 2016.05.25:

INNHOLD

INSTALLATION AND USE

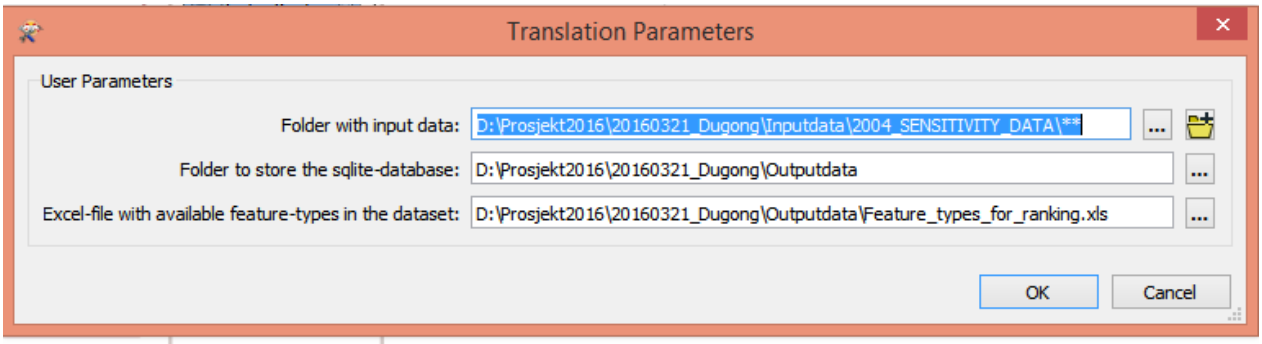
- Software needed:
    - FME Desktop 2016
    - QGIS
    - MS Excel
- Data needed:
    - Inputdata
    - Excel-files for templates:
        - Part1b_Dataset preparation_Convert_to_specific_datatypes_ranking_table.xlsx
            - This describes the mapping to specific ranks
        - Results_ranking_template.xls
            - This decribes the look of the Results_ranking.xls that will contain the end-result.

STRUCTURE OF FME WORKSPACES

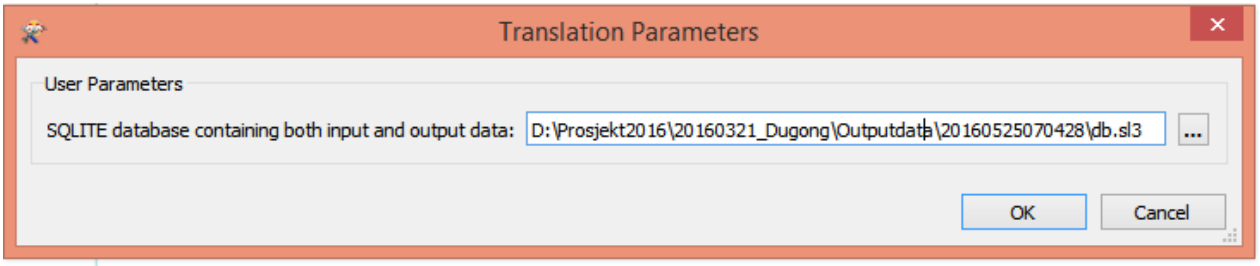
The FME workspaces should be self-explanatory – however a brief description of the different parts can be found in this document.

The delivered workspaces are:

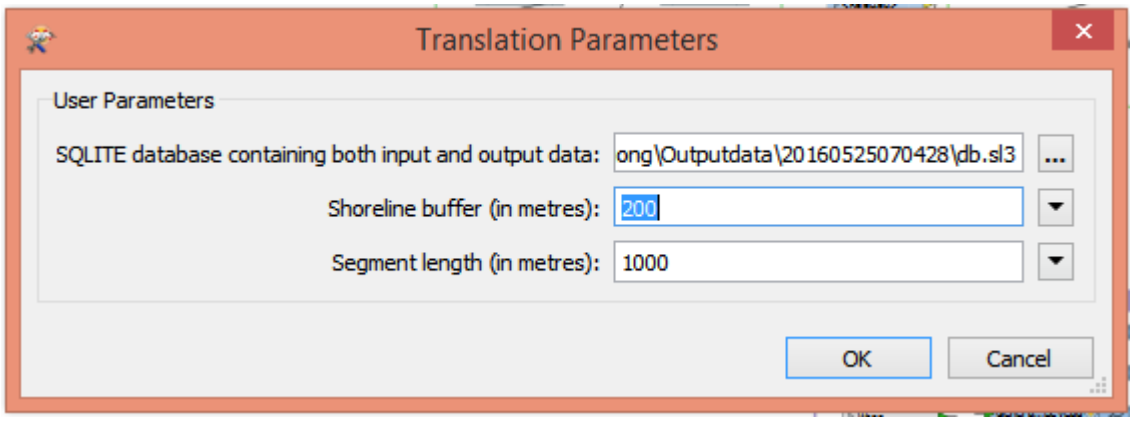
- **Part1a_Dataset preparation_Import_data**: Takes a catalogue with files and imports them to a SQLITE filedatabase. Converts everything to Coordinate system: EPSG:4326 and keeps all attributes. Takes approx. 30 minutes to process all input-files delivered to a 130 MB sqlite database.



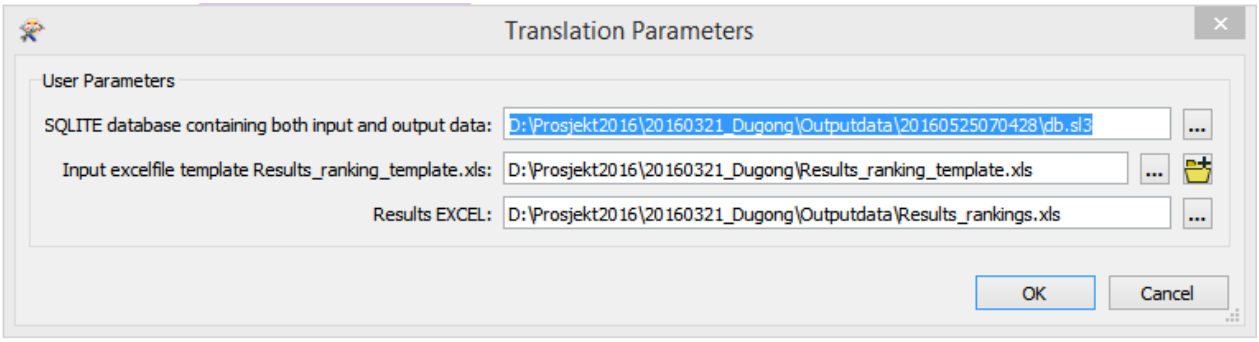
- **Part1b_Dataset preparation_Convert_to_specific_datatypes**: Uses Part1b_Dataset preparation_Convert_to_specific_datatypes_ranking_table.xlsx to convert to defined schema. This workspace attaches the ID (for instance H1,H2,H3, E1,E2,E3 to spatial features) to relevant and creates a table called H1,H2,E1,E2 etc with each feature.



- **Part2_Shoreline_simplification**: Generates a generalized shoreline with user input values defining the buffer and the length of each segment. Creates 3 features, generalized_shoreline, generalized_shoreline_text, generalized_buffer



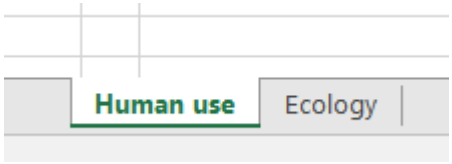
- **Part3_Result_generate_output:** Takes the buffered areas from the generalized shoreline and overlays them with the data to produce output-files according to specifications.



HOW TO ADD A NEW RANKING

1. Open up Part1b_Dataset preparation_Convert_to_specific_datatypes_ranking_table.xlsx

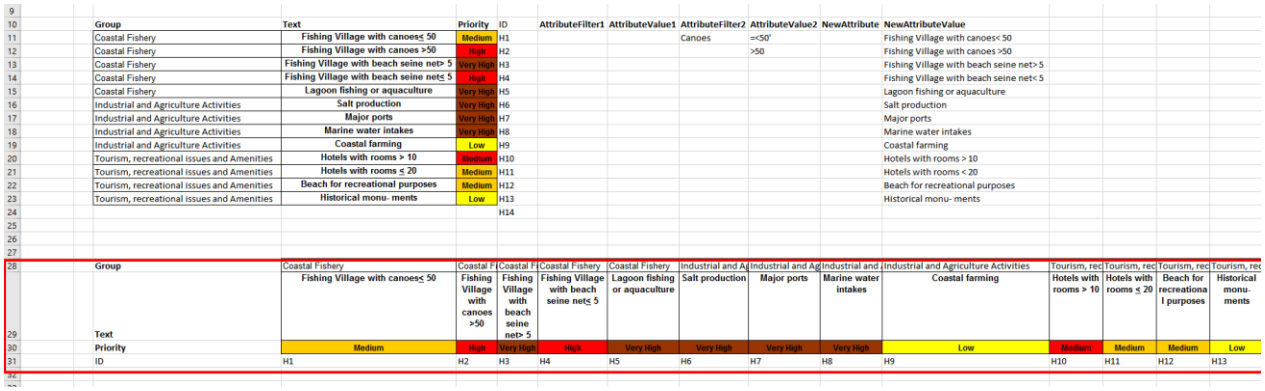
   Choose the correct Sheet – Human use or Ecology



   and find the existing ID or create a new row with your dataset.

Group	Text	Priority	ID
Coastal Fishery	Fishing Village with canoes≤ 50	Medium	H1
Coastal Fishery	Fishing Village with canoes >50	High	H2
Coastal Fishery	Fishing Village with beach seine net> 5	Very High	H3
Coastal Fishery	Fishing Village with beach seine net≤ 5	High	H4

2. Delete everything on row 28 – 35



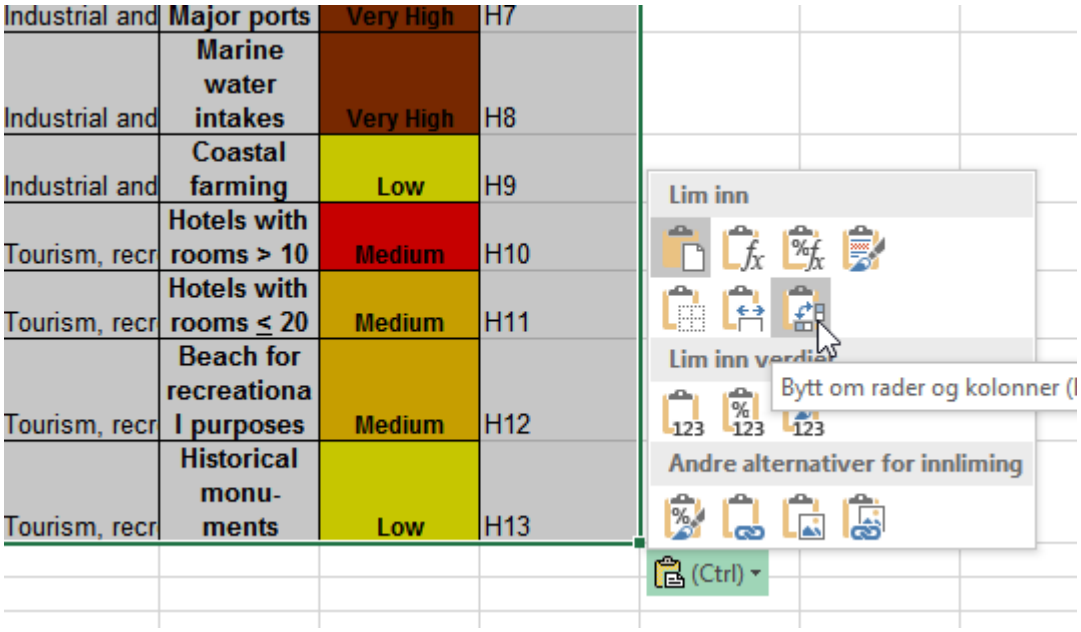
	Group	Text	Priority	ID	AttributeFilter1	AttributeValue1	AttributeFilter2	AttributeValue2	NewAttribute	NewAttributeValue
	Coastal Fishery	Fishing Village with canoes≤ 50	Medium	H1			Canoes	=<50'		Fishing Village with canoes< 50
	Coastal Fishery	Fishing Village with canoes >50	High	H2				>50		Fishing Village with canoes >50
	Coastal Fishery	Fishing Village with beach seine net> 5	Very High	H3						Fishing Village with beach seine net> 5
	Coastal Fishery	Fishing Village with beach seine net≤ 5	High	H4						Fishing Village with beach seine net< 5
	Coastal Fishery	Lagoon fishing or aquaculture	Very High	H5						Lagoon fishing or aquaculture
	Industrial and Agriculture Activities	Salt production	Very High	H6						Salt production
	Industrial and Agriculture Activities	Major ports	Very High	H7						Major ports
	Industrial and Agriculture Activities	Marine water intakes	Very High	H8						Marine water intakes
	Industrial and Agriculture Activities	Coastal farming	Low	H9						Coastal farming
	Tourism, recreational issues and Amenities	Hotels with rooms > 10	Medium	H10						Hotels with rooms > 10
	Tourism, recreational issues and Amenities	Hotels with rooms ≤ 20	Medium	H11						Hotels with rooms < 20
	Tourism, recreational issues and Amenities	Beach for recreational purposes	Medium	H12						Beach for recreational purposes
	Tourism, recreational issues and Amenities	Historical monu- ments	Low	H13						Historical monu- ments
				H14						

28	Group	Coastal Fishery	Coastal Fi	Coastal Fi	Coastal Fishery	Coastal Fishery	Industrial and Ag	Industrial and Ag	Industrial and	Industrial and Agriculture Activities	Tourism, rec	Tourism, rec	Tourism, rec	Tourism, rec
29	Text	Fishing Village with canoes≤ 50	Fishing Village with canoes >50	Fishing Village with beach seine net> 5	Fishing Village with beach seine net≤ 5	Lagoon fishing or aquaculture	Salt production	Major ports	Marine water intakes	Coastal farming	Hotels with rooms > 10	Hotels with rooms ≤ 20	Beach for recreational purposes	Historical monu- ments
30	Priority	Medium	High	Very High	High	Very High	Very High	Very High	Very High	Low	Medium	Medium	Medium	Low
31	ID	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13

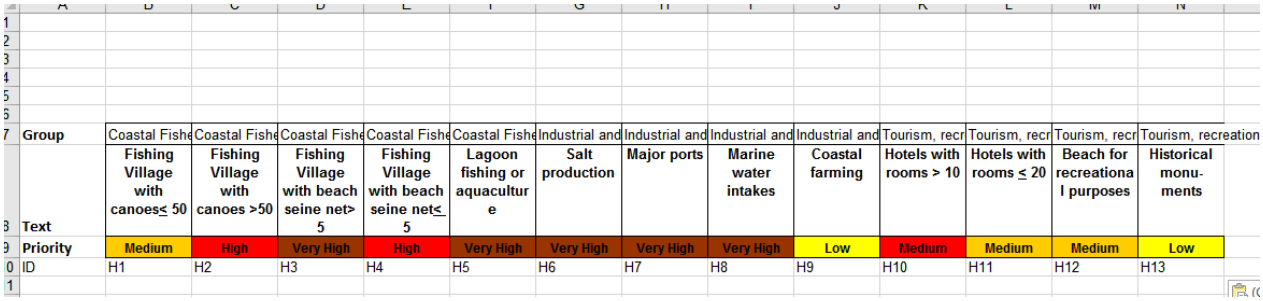
3. Mark your new text – right click and COPY:

Group	Text	Priority	ID
Coastal Fishery	Fishing Village with canoes≤ 50	Medium	H1
Coastal Fishery	Fishing Village with canoes >50	High	H2
Coastal Fishery	Fishing Village with beach seine net> 5	Very High	H3
Coastal Fishery	Fishing Village with beach seine net≤ 5	High	H4
Coastal Fishery	Lagoon fishing or aquaculture	Very High	H5
Industrial and Agriculture Activities	Salt production	Very High	H6
Industrial and Agriculture Activities	Major ports	Very High	H7
Industrial and Agriculture Activities	Marine water intakes	Very High	H8
Industrial and Agriculture Activities	Coastal farming	Low	H9
Tourism, recreational issues and Amenities	Hotels with rooms > 10	Medium	H10
Tourism, recreational issues and Amenities	Hotels with rooms ≤ 20	Medium	H11
Tourism, recreational issues and Amenities	Beach for recreational purposes	Medium	H12
Tourism, recreational issues and Amenities	Historical monu- ments	Low	H13

4. You also need to update the Results_ranking_template.xls with the new data – so open this file on the correct sheet (Ecology or Human Use) – Paste the data from row 7A. Choose Options at the lower right ((Ctrl)) and the change rows / columns 



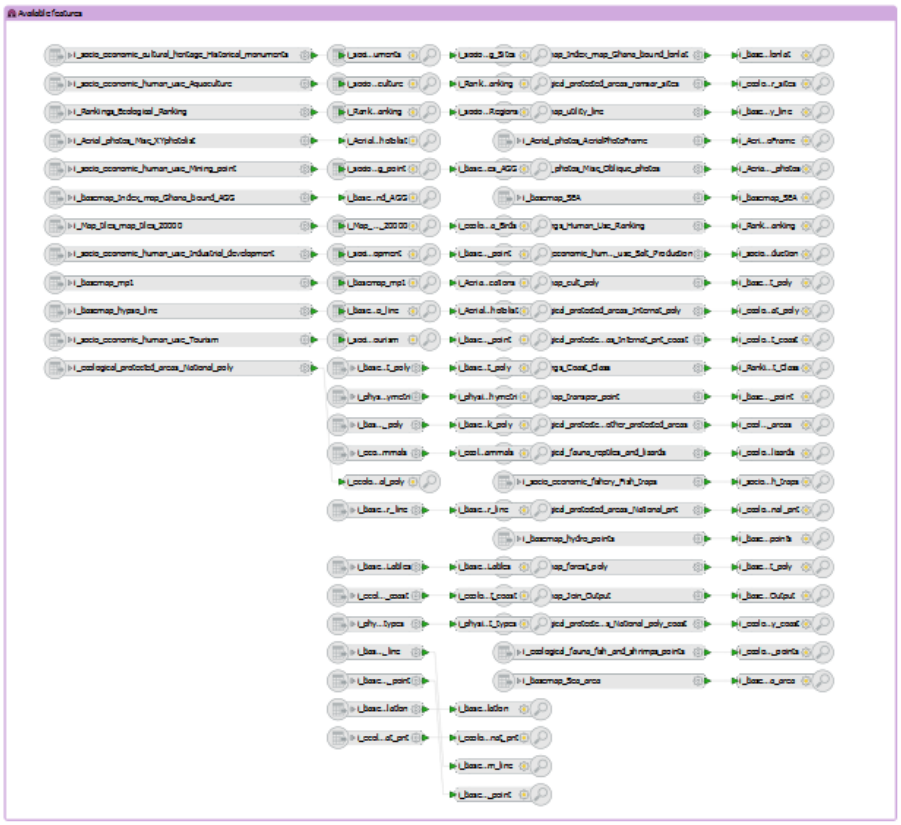
The rows should now be aligned as columns like this:



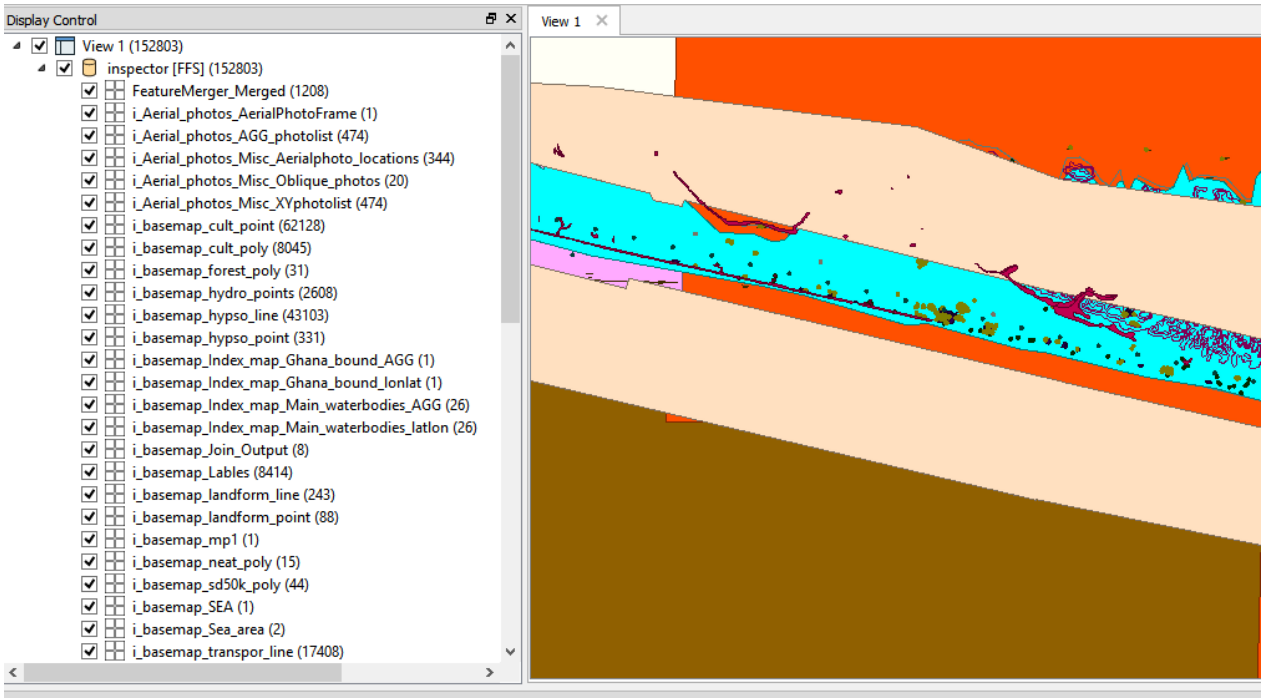
7	Group	Coastal Fishe	Coastal Fishe	Coastal Fishe	Coastal Fishe	Coastal Fishe	Industrial and	Industrial and	Industrial and	Industrial and	Tourism, recr	Tourism, recr	Tourism, recr	Tourism, recreation
8	Text	Fishing Village with canoes≤ 50	Fishing Village with canoes >50	Fishing Village with beach seine net> 5	Fishing Village with beach seine net≤ 5	Lagoon fishing or aquaculture	Salt production	Major ports	Marine water intakes	Coastal farming	Hotels with rooms > 10	Hotels with rooms ≤ 20	Beach for recreational purposes	Historical monu-ments
9	Priority	Medium	High	Very High	High	Very High	Very High	Very High	Very High	Low	Medium	Medium	Medium	Low
10	ID	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13

5. Open up Part1b_Dataset preparation_Convert_to_specific_datatypes.fmw in FME Workbench.

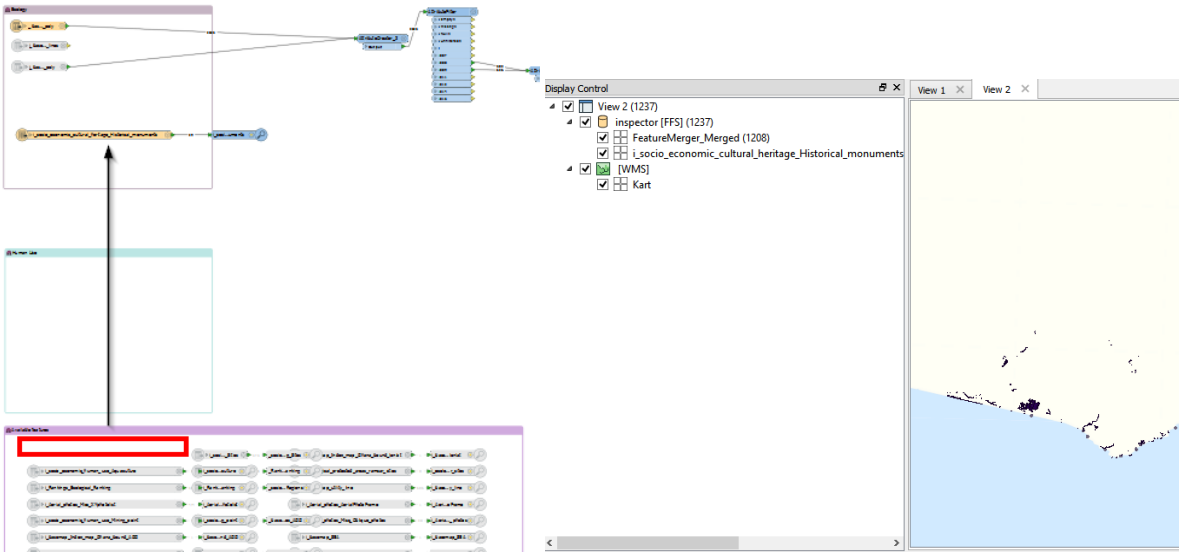
6. Enable all features within the bookmark “Available Features” and look at the data in FME Data Inspector



7. Examine the data in the FME Data Inspector and find the feature that represents the dataset that you want to add

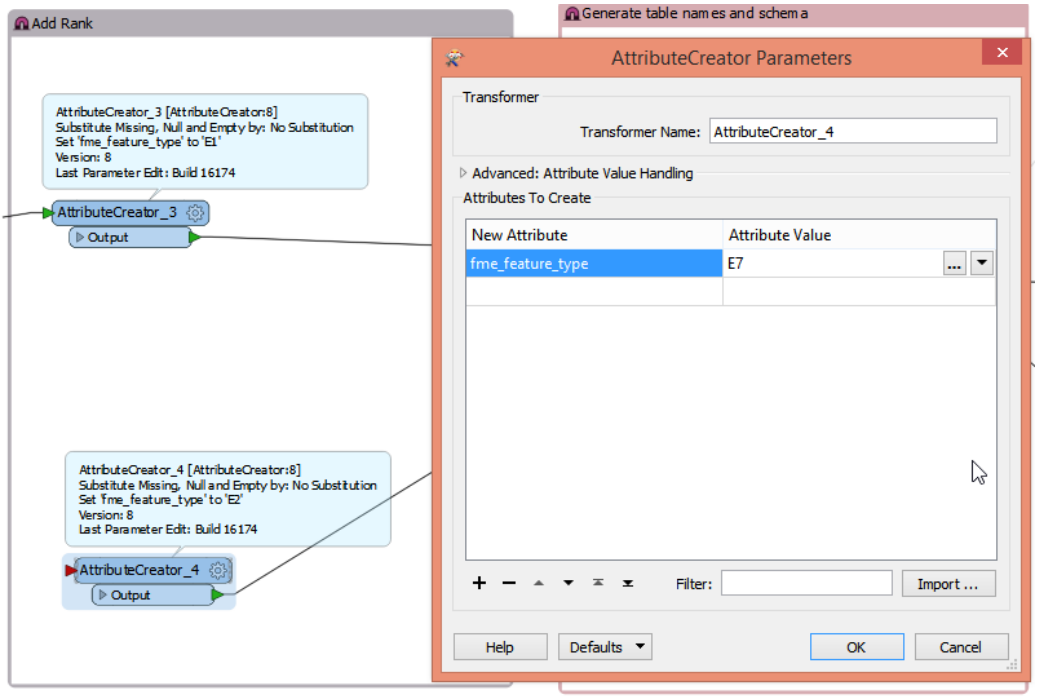


8. Find this dataset and move it to Ecology or Human Use Bookmark, now disable all the other features and run the workspace to confirm you have found the correct dataset you want to work with.



9. Add the logic you need to filter out the correct features you want *tagged* and copy the AttributeCreator_3 which is within the Bookmark called “Add Rank”. Edit this new Transformer and change the Attribute Value on the fme_feature_type to the correct one from the Excel-sheet. For instance below it is set to E7, which in the Excel-sheet is defined as:

Ecosystems (Rocky shores)	Mixed Rock and Sandy Beach	Medium	E7



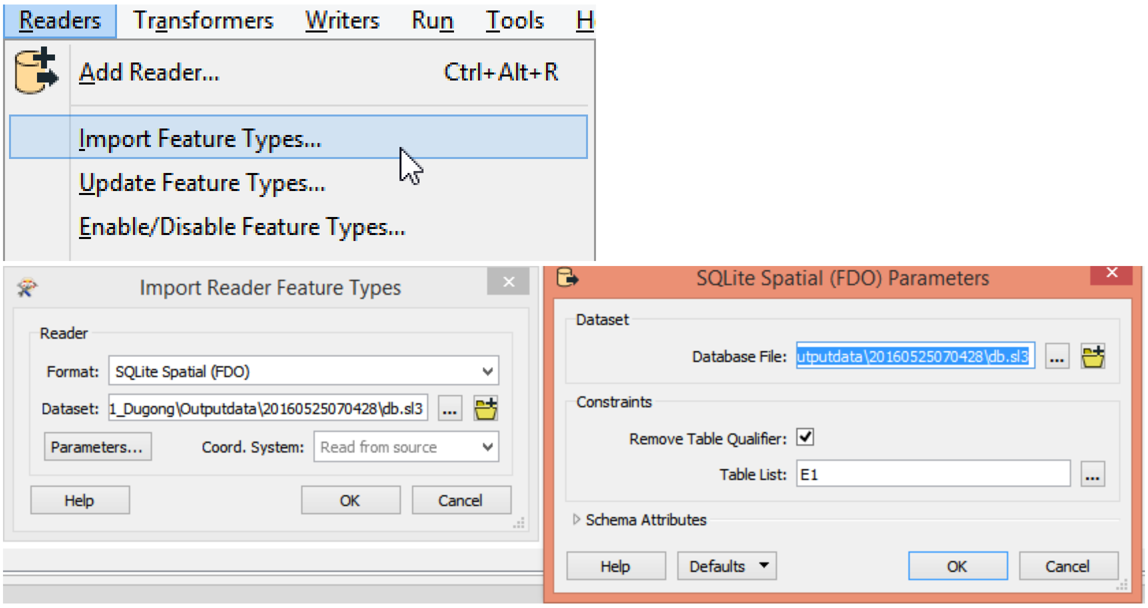
10. Run the workspace and verify by opening the sdqlite in FME Data Inspector that there is now a table/feature called E7 (or the value you entered). You can also examine the logfile to see if the features was written:

```
2016-05-26 11:02:36|   7.3|   0.0|STATS |=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
2016-05-26 11:02:36|   7.3|   0.0|STATS |                                  Features Written Summary
2016-05-26 11:02:36|   7.3|   0.0|STATS |=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
2016-05-26 11:02:36|   7.3|   0.0|STATS |E1                                                                         | 1208
2016-05-26 11:02:36|   7.3|   0.0|STATS |==========================================================================
2016-05-26 11:02:36|   7.3|   0.0|STATS |Total Features Written                                                       1208
2016-05-26 11:02:36|   7.3|   0.0|STATS |=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
2016-05-26 11:02:36|   7.3|   0.0|INFORM|Translation was SUCCESSFUL with 1 warning(s) (1208 feature(s) output)
2016-05-26 11:02:36|   7.3|   0.0|INFORM|FME Session Duration: 13.1 seconds. (CPU: 2.4s user, 4.9s system)
2016-05-26 11:02:36|   7.3|   0.0|INFORM|END - ProcessID: 17592, peak process memory usage: 109096 kB, current process me
```

11. If you want to change the shoreline buffer or length, run the Part2_Shoreline_simplification.fmw with the new values.

12. Open Part3_Result_generate_output.fmw.

13. Do Readers – Import Feature Types . And find your newly created Table (E7)



14. Connect this new Featuretype/Table to the AttributeCreator

15. Run the Workspace and the excelfile (Results_rankings.xls) will be updated with data on that column

7	Group	Ecosystem (	Ecosystem (	Ecosystem (	Ecosystem (	Ecosystems	Ecosystems	Ecosystems
8	Text	Sandy Beach Fine grained, low slope	Sandy Beach Coarse and mobile	Sandy Beach Turtle nesting sites	Sandy Beach Turtle nesting sites	Rock Steep Exposed	Rock Moderate Slope exposed	Mixed Rock and Sandy Beach
9	Priority	Low	Low	High	High	Low	Medium	Medium
10	ID	E1	E2	E3	E4	E5	E6	E7
11	ID	E1	E2	E3	E4	E5	E6	E7
12	1	1						1
13	2	1						
14	3	1						1
15	4	1						1