



# Processing Graphical modeler - Vector data – Buffer and Clip

QGIS 2.4 - WINDOWS 7 - AUGUST 2014

## Goal for this lesson:

In this lesson you will learn to use tools and Graphical modeler in the Processing menu.

In the Graphical modeler you can create an entire workflow and save the output. The workflow can be saved and used on different dataset.

In this lesson you are going to perform the same tasks as in Lesson 5 – Buffer and Clip.

The steps are:

- Open layers
- Open Toolbox>Graphical modeler
- Choose input
- Create buffer 10 m for Lakes
- Create buffer 10 m for Streams
- Merge buffers into one new layer
- Dissolve buffers
- Clip polygons with dissolved buffer
- Calculate area
- Run Model
- Save Model
- Save new layer

Data: Buffer.Zip

Source: Markblok data from <https://kortdata.fvm.dk/download/index.html> (Translated and edited),  
Lake (Soe) and Stream(Vandloeb\_Bred) from Kort10 Kortforsyningen.dk

## Start lesson

Open the layers:

Stream.shp  
Lake.shp and  
agricultural\_field2.shp

Zoom in for more details



## Processing Graphical modeler

You are going to build a model.

1. Name the model **Calculate Zone**
2. Describe the input data
3. Choose Algorithms
4. Test and Save

## Inputs

The data input are the 3 files: Stream, Lake and agricultural\_field2

Click on **Processing>Graphical modeler**

In **Enter Model name here** write **Calculate Zone**

Double Click on **Vector layer**

In **Parameter name** write **Stream**

In **Shape type** choose **Line**

In **Required** Choose **Yes**

Click **OK**

Double Click on **Vector layer**

In **Parameter name** write **Lake**

In **Shape type** choose **Polygon**

In **Required** Choose **Yes**

Click **OK**

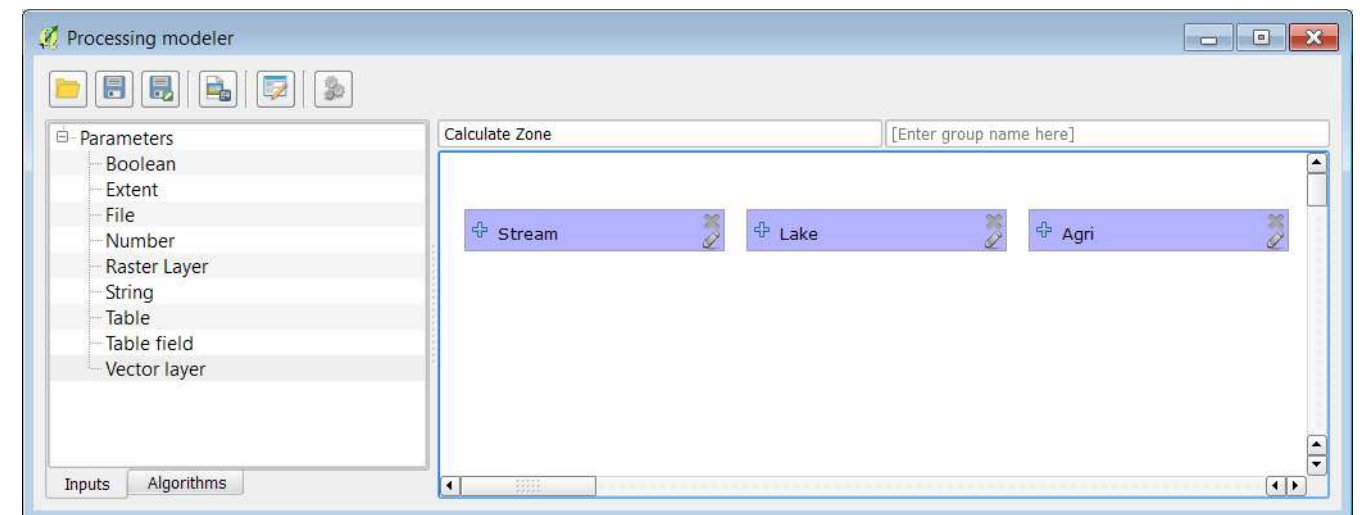
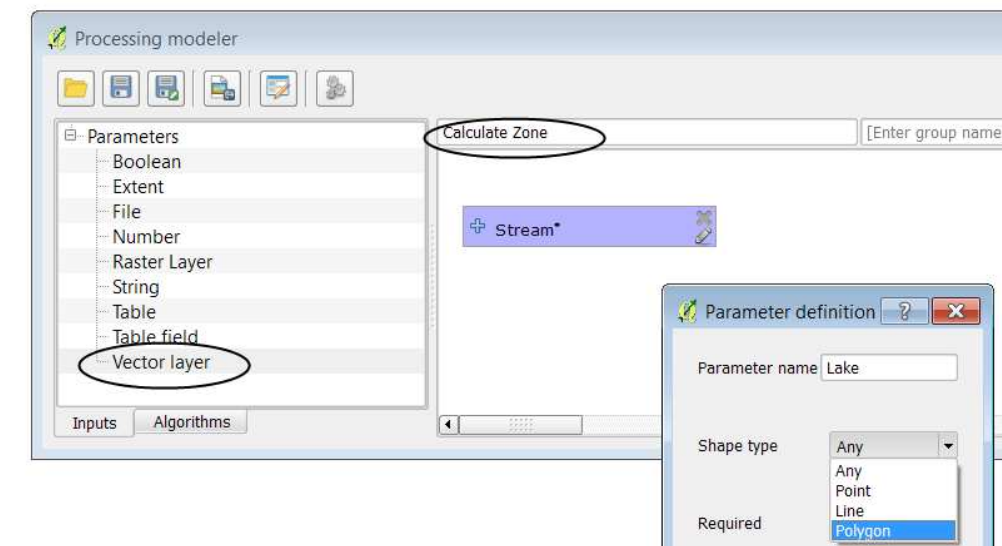
Double Click on **Vector layer**

In **Parameter name** write **Agri**

In **Shape type** choose **Polygon**

In **Required** Choose **Yes**

Click **OK**

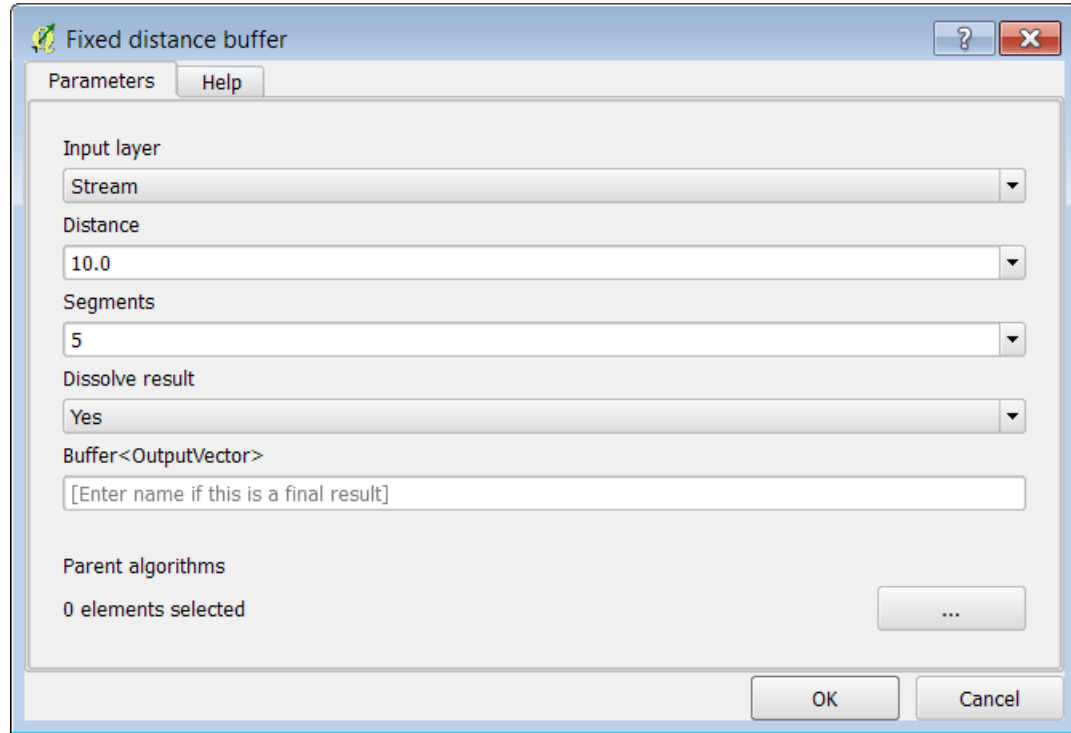
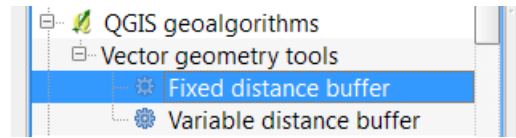


# Algorithms - Buffer

Click on the tab **Algorithms**

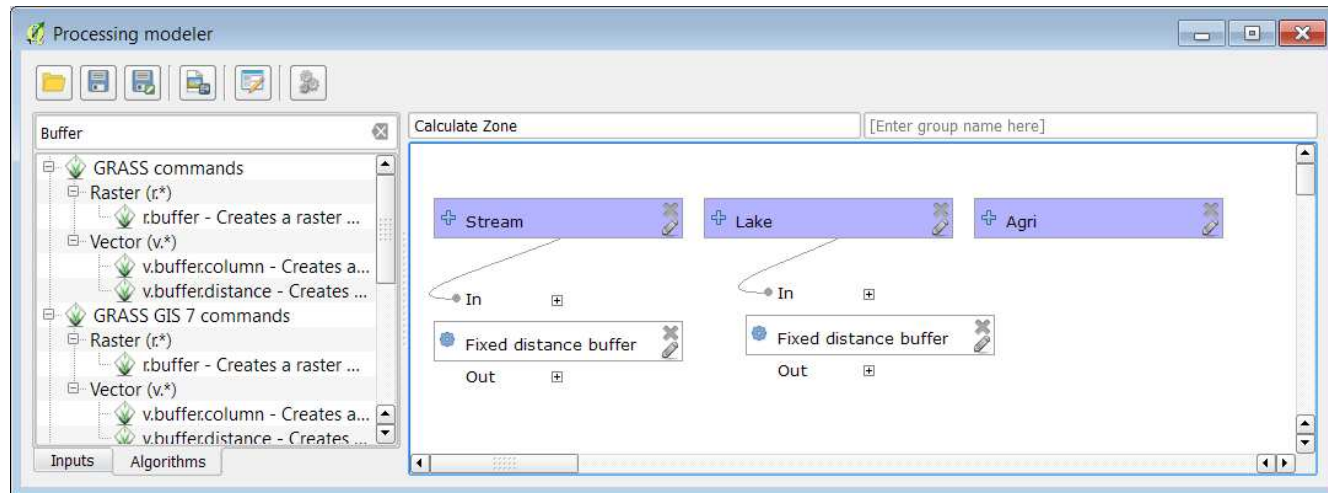
In **Search** write **Buffer**

Double click on **Fixed distance buffer**



Click **OK**

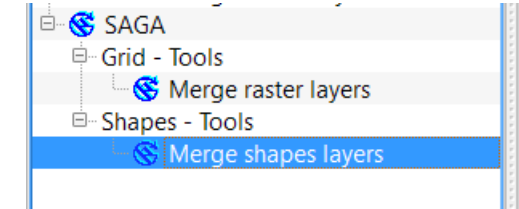
Do the same for **Lake**



# Algorithms – Merge

The second algorithm is a Merge. The two layers with buffer are going to be merged into one layer  
In **Search** write **Merge**

Choose **Merge shapes layers**



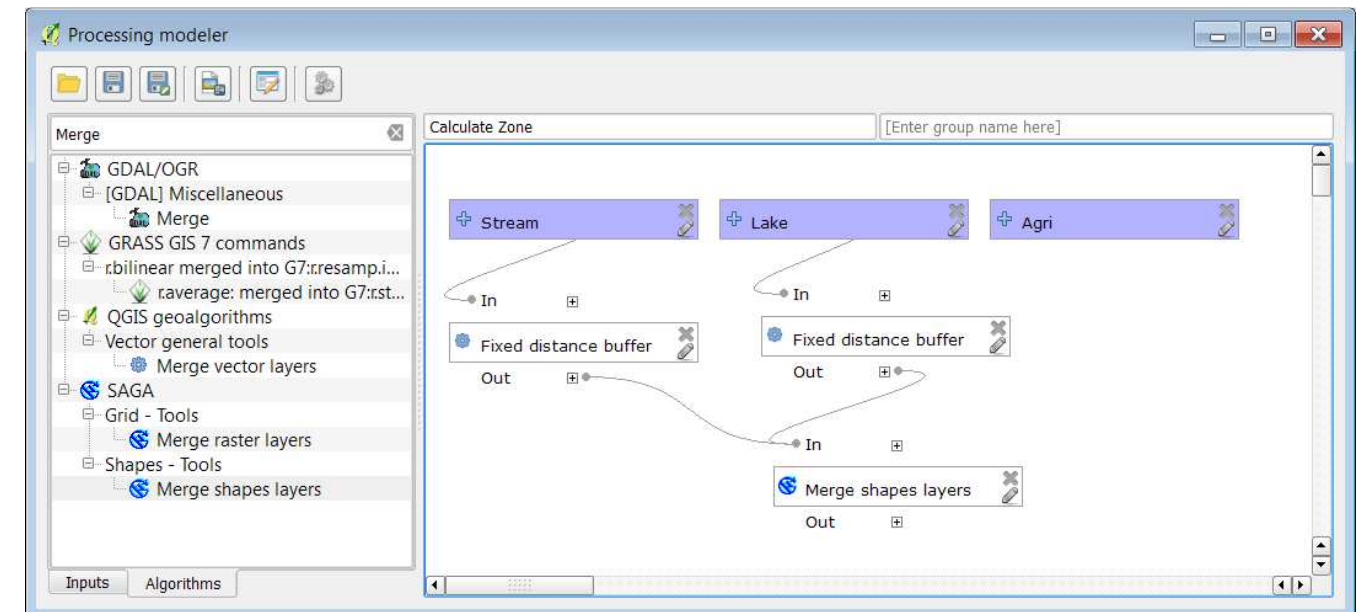
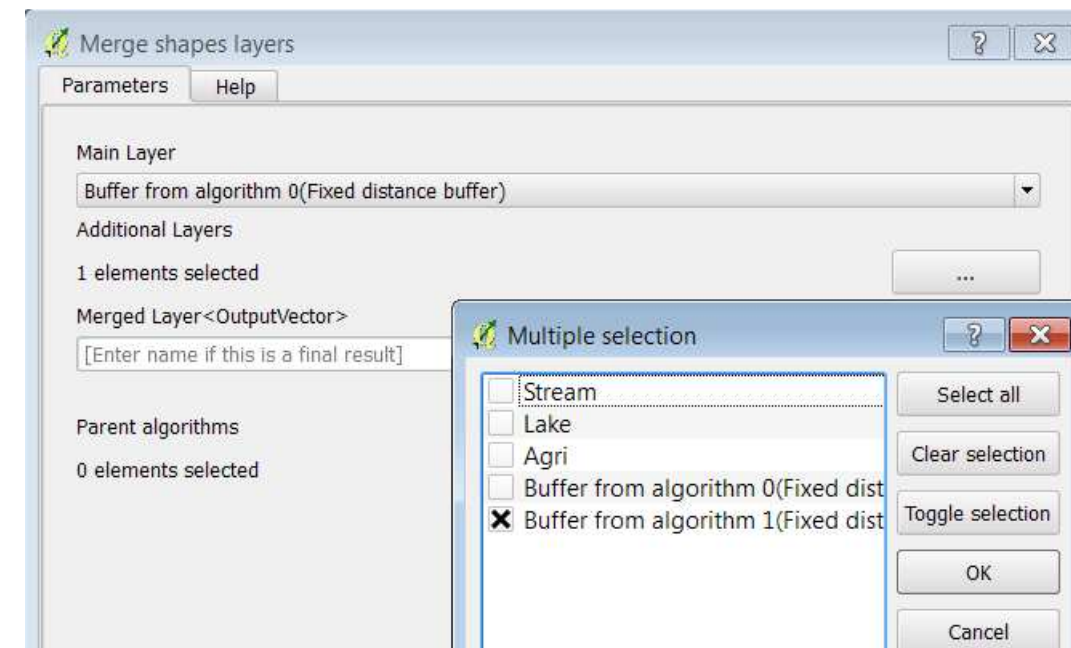
Choose in **Main layer** Buffer from algorithm 0

Click on **...**

Click on **Buffer from algorithm 1**

Click **OK**

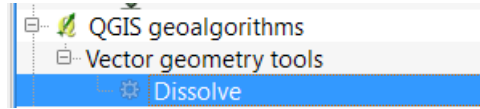
Click **OK**



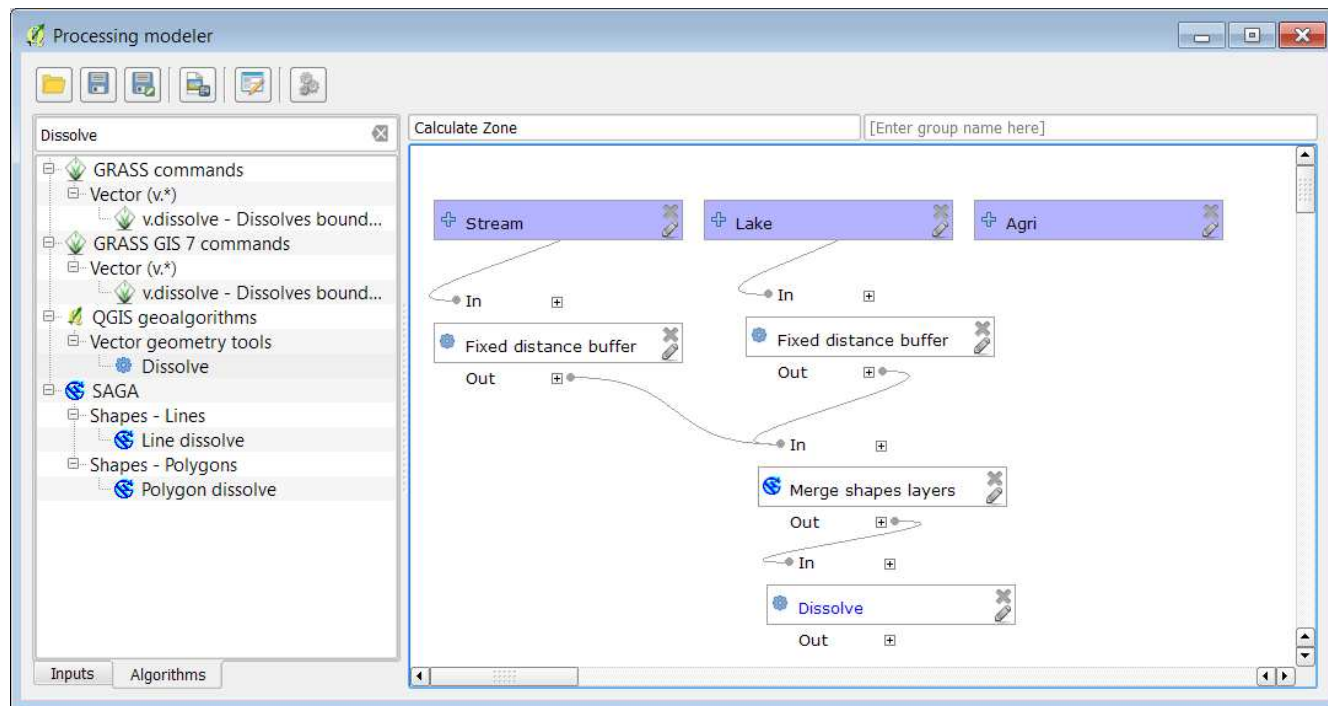
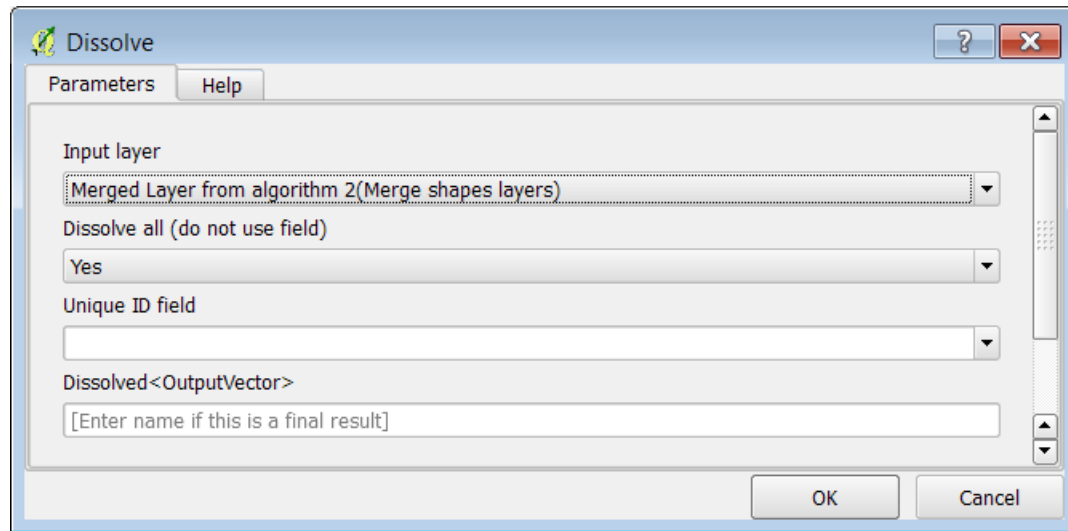
## Algorithms – Dissolve

The merged layer contains 2 records, 1 from each buffer. After the merge you are going to dissolve these two into one record.

In **Search** write **Dissolve**  
Double click on **Dissolve**



In **Input layer** choose **Merged layer from algorithm 2**  
Click **OK**



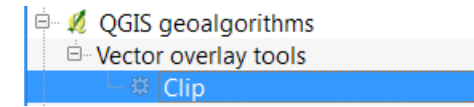
## Algorithms – Clip

Now the **agricultural\_field2** polygons have to be clipped against the dissolved polygon.

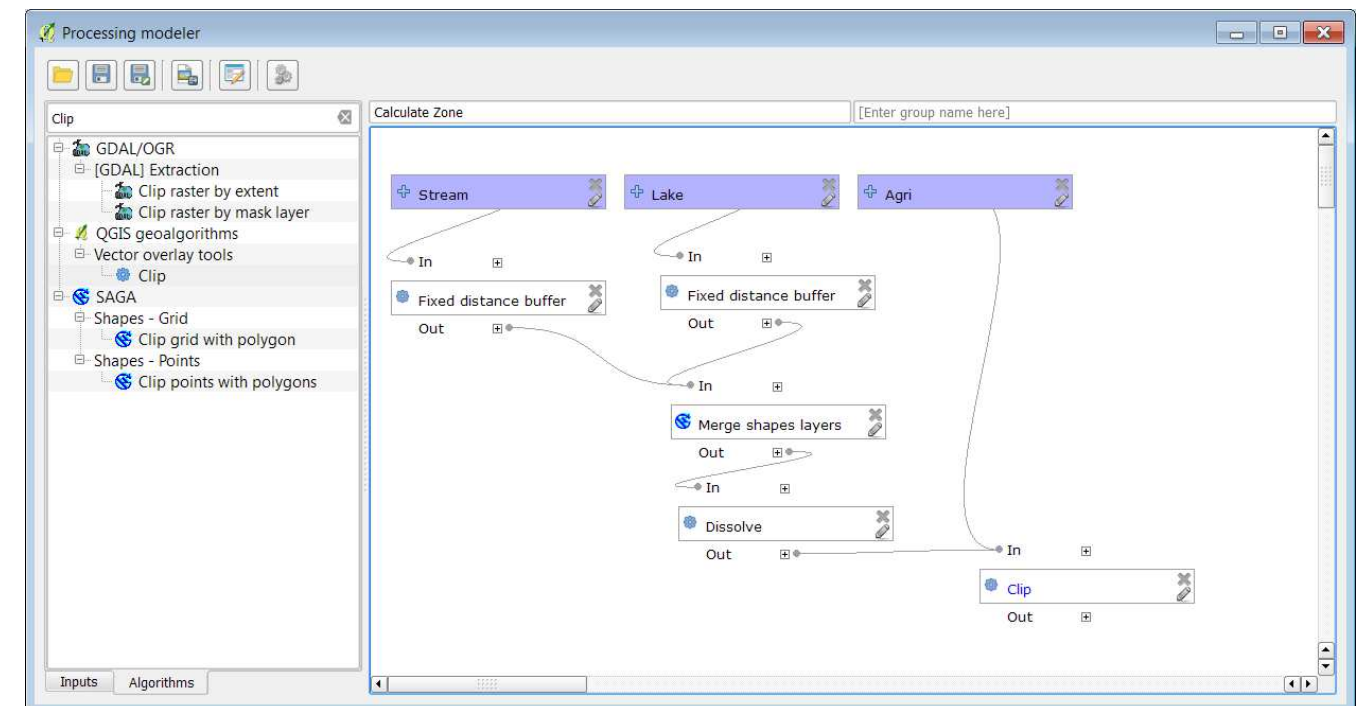
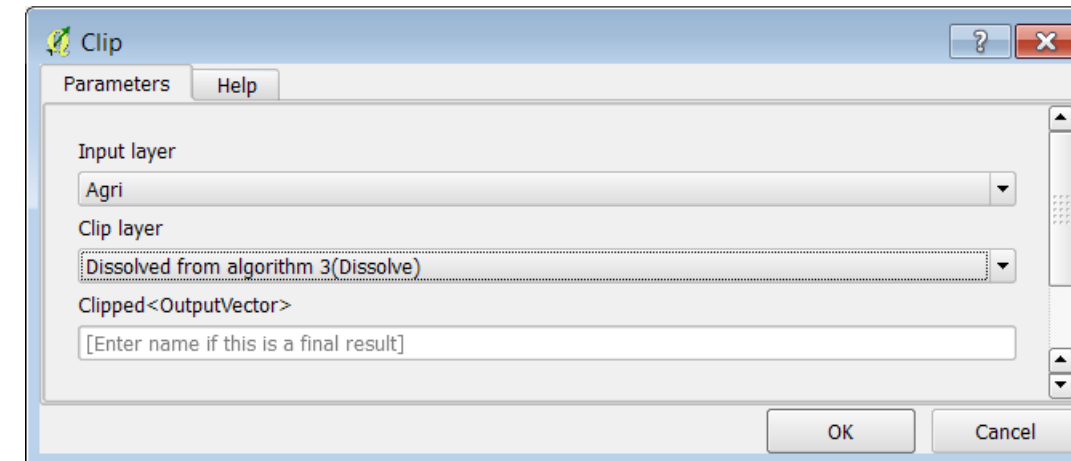
The result will be the areas where **agricultural\_field2** is overlapped with the buffer.

In **search** write **Clip**

Double click on **Clip**



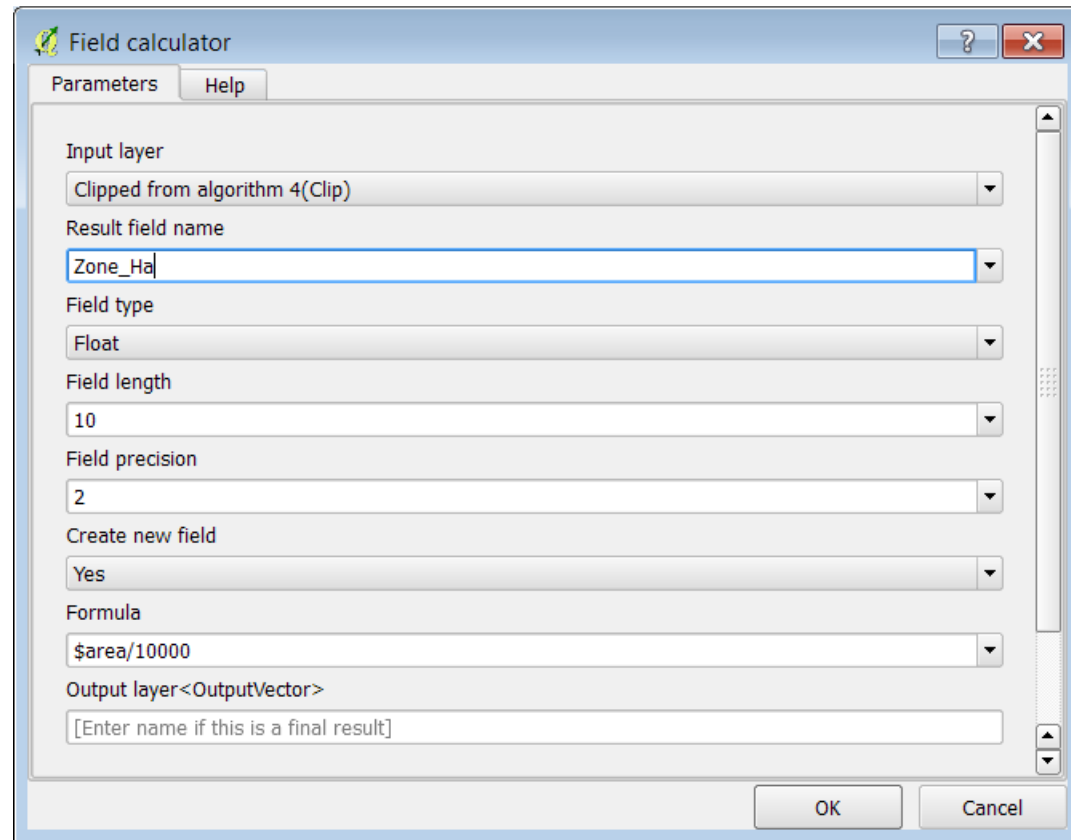
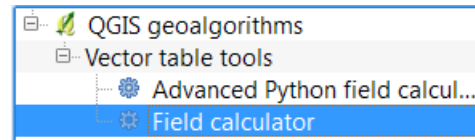
Click **OK**



## Algorithms – Field Calculator

The final result of all the algorithms is a new layer **Zone**, before saving this new layer you are going to create a new column with the area calculated in Hectare.

In **Search** write **Field calculator**  
Double click on **Field calculator**

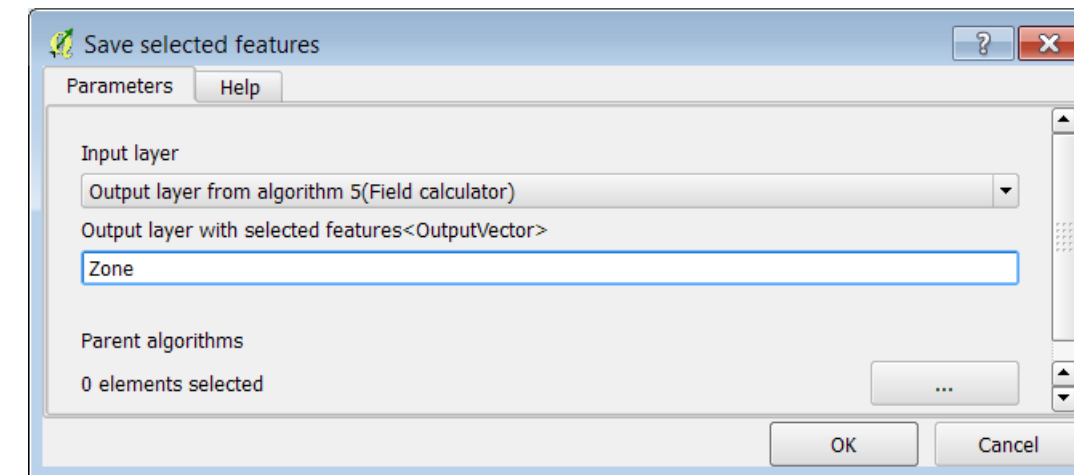


## Algorithms – Save

In the final algorithm you are going to choose a save algorithm.

In **Search** write **Save**  
Double click on **Save selected features**

This algorithm does not save the file as a shape file layer – only as a temp. file.  
(After running the model you can save: For saving rightclick in **Layers>Save As..**)



## Run module

Click on **Run model** 

The result is one layer of polygons called Zone.  
For saving rightclick in **Layers>Save As..**

