QGIS Application - Bug report #9348
Selection of thousands of points very slow in QGIS2

2014-01-15 10:51 AM - Rhenriques Henriques

Status:	Closed		
Priority:	Severe/Regression		
Assignee:			
Category:	Vectors		
Affected QGIS version:	master	**Regression?:**	No
Operating System:		**Easy fix?:**	No
Pull Request or Patch supplied:	No	**Resolution:**	invalid
Crashes QGIS or corrupts data:	No	**Copied to github as #:**	17950

Description

The selection of thousands of points from a 5 million point shapefile takes ages to process and eventually crashes QGIS 2 and QGIS 2 NB. I had to force quit after 2 hours. In QGIS 1.8 the same selection occurs in seconds. Glad I have a 1.8 copy still installed.
Used both Freehand and Select by Radius modes.
Cheers

QGIS 2 or NB under MacOSX Mavericks

History

#1 - 2014-01-15 10:59 AM - Giovanni Manghi

- Target version set to Future Release - High Priority
- Category set to Vectors
- Priority changed from High to Severe/Regression
- Affected QGIS version changed from 2.0.1 to master

Then tagging as a regression.

#2 - 2014-01-15 11:17 AM - Rhenriques Henriques

- Target version deleted (Future Release - High Priority)

The same applies to the editing of values in the attribute table.

#3 - 2014-01-22 12:35 PM - Andreas Neumann

Does the point shapefile have a spatial index. Can you share the data so we can test the issue?

#4 - 2014-01-22 02:20 PM - Rhenriques Henriques

Hi Andreas

Thank you so much for the reply. The problem happens with or without spatial index. Tested both situations.
Unfortunately, the layer I'm using is restricted. But you can test the same problem by building a random point layer, with 2 or 3 columns of attributes, with more than 300000 points. I've made 2 videos for you to see the difference in versions 1.8 and 2.0. In the smaller set video, QGIS 1.8 selects points almost instantly while QGIS 2.0 takes more than 40 seconds. In the larger set selection, QGIS 1.8 takes 6 or 7 seconds to perform the selection while I had to

force quit QGIS 2.0 after 8 minutes of processing without any selection. This layer has, sometimes, several dozens of points in the same positions. Access the videos from here (you can fast forward the second one to near end because it takes 8 minutes to that point!!):

http://www.dct.uminho.pt/smallsetselection.mp4

http://www.dct.uminho.pt/largesetselection.mp4

This problem makes me use QGIS 1.8 often just for these kind of tasks. The same happens while selecting from attributes table with expressions or to change several thousands of attribute cells via calculator.

Cheers

#5 - 2014-01-27 02:05 AM - Alvaro Huarte

I do not test this case use, but this patch

https://github.com/qgis/QGIS/pull/1114

can fix this issue

Alvaro

#6 - 2014-01-28 02:13 AM - Alvaro Huarte
- Status changed from Open to Feedback

#7 - 2014-01-29 08:24 AM - Rhenriques Henriques

Hi Alvaro

Thank you so much for taking ongoing this annoying issue. I've made the modifications to the xxx.h files in the MacOSX latest NB, suggested by you from here "https://github.com/qgis/QGIS/pull/1116/files" but no luck. The problem remains the same. I'll wait for the next NB's, with the committed code, to check if the problem get solved because there's always a chance that I did something wrong.
Cheers

#8 - 2014-01-29 09:02 AM - Alvaro Huarte

Rhenriques Henriques wrote:

> *Hi Alvaro*
>
> *Thank you so much for taking ongoing this annoying issue. I've made the modifications to the xxx.h files in the MacOSX latest NB, suggested by you from here "https://github.com/qgis/QGIS/pull/1116/files" but no luck. The problem remains the same. I'll wait for the next NB's, with the committed code, to check if the problem get solved because there's always a chance that I did something wrong.*
> *Cheers*

Hi, can you attach the data to test ?
I can try solve it

Alvaro

#9 - 2014-01-29 10:55 AM - Rhenriques Henriques

Hi Alvaro

The data that I'm using is restricted. However I've generated a Random 400000 Points layer for the Iberian Peninsula Area. You can test the issue with this layer. Even without any attribute, if you try to select, let's say, 1/6 of the points, with QGIS 1.8 it will get selected almost instantaneously. With QGIS 2.x it takes ages or crash.
While testing this issue, I've found another bug into the NB. Define a Shapefile, choose Vector -> Research Tools -> Random Points ; Choose 400000 point generation and flag "Add result to Canvas" - QGIS will crash.

Cheers

download from: https://www.dropbox.com/s/hputdz2b27sx7cl/TestPoints.zip

#10 - 2014-01-29 01:51 PM - Alvaro Huarte

Hi Rhenriques, I get "normal" results, I have released a video (~18mb):

http://www.filedropper.com/testissue9348

could be some plugin? I have none installed
Alvaro

#11 - 2014-01-29 02:27 PM - Rhenriques Henriques

Hi Alvaro

That example is before or after the code modification? Your selection is indeed quicker. Maybe it's an OS related issue or, as you say, a plugin. I need to test that further. Maybe any option flagged somewhere, I don't know. But, even so, as you can see, freehand selection lags a lot. Try the same in QGIS1.8 and you will see that it's a lot faster. Did you check the "Random Points" bug?
I'll make some plugin disabling and let you know the results.
Cheers

#12 - 2014-01-29 02:29 PM - Matthias Kuhn

Try running with --noplugins to check if it is a plugin issue

#13 - 2014-01-29 02:33 PM - Giovanni Manghi

Rhenriques Henriques wrote:

> *Hi Alvaro*
>
> *That example is before or after the code modification? Your selection is indeed quicker. Maybe it's an OS related issue or, as you say, a plugin. I need to test that further. Maybe any option flagged somewhere, I don't know. But, even so, as you can see, freehand selection lags a lot. Try the same in QGIS1.8 and you will see that it's a lot faster. Did you check the "Random Points" bug?*
> *I'll make some plugin disabling and let you know the results.*
> *Cheers*

Hi Rui,

I also just tested qgis master on Ubuntu and selecting even all your 400k points from both the table or the map it is very fast.

#14 - 2014-01-29 02:39 PM - Rhenriques Henriques

Hi again Alvaro

Definitely a plug-in. I've just disabled all and selection is normal. I'm going to isolate the culprit. I hope that it's not an important one. QGIS is a lot better due to plug-ins.
Cheers

#15 - 2014-01-29 02:40 PM - Giovanni Manghi
- Status changed from Feedback to Closed
- Resolution set to invalid

#16 - 2014-01-29 02:41 PM - Alvaro Huarte

Rhenriques Henriques wrote:

> *Hi Alvaro*
>
> *That example is before or after the code modification? Your selection is indeed quicker. Maybe it's an OS related issue or, as you say, a plugin. I need to test that further. Maybe any option flagged somewhere, I don't know. But, even so, as you can see, freehand selection lags a lot. Try the same in QGIS1.8 and you will see that it's a lot faster. Did you check the "Random Points" bug?*
> *I'll make some plugin disabling and let you know the results.*
> *Cheers*

Hi, my apologies for not describing my results:
This example is after modification.
Freehand selection lags a lot, that makes sense, the clipping polygon has more points than a simple rectangle, It will study it if there is something wrong.
I dont check "Random Points", I will test soon.

Best Regards
Alvaro

#17 - 2014-01-29 02:57 PM - Rhenriques Henriques

Hi again

I've isolated the culprit. This slowness is due to the experimental "Geometry copier" plug-in by Nikulin Evgeniy. Try to check if, in similar problems, people have this plug-in installed. Warn the author about this "painful" issue.
Cheers

#18 - 2014-01-29 03:07 PM - Alvaro Huarte

I think that the problem is:

https://github.com/yellow-sky/GeometryCopier/blob/master/src/geometry_copier.py#L109

It loads all selected geometries in memory reading from disk one to one.

I think the solution is use...

QgsVectorLayer::selectedFeaturesIds() -> features = layer.selectedFeatures()

Alvaro

#19 - 2014-01-29 03:09 PM - Nathan Woodrow

Or better yet just use `selectedFeaturesCount()`.

#20 - 2014-01-29 03:10 PM - Alvaro Huarte

Ups...

https://github.com/yellow-sky/GeometryCopier/blob/master/src/geometry_copier.py#L126
https://github.com/yellow-sky/GeometryCopier/blob/master/src/geometry_copier.py#L151

#21 - 2014-01-29 03:16 PM - Alvaro Huarte

Nathan Woodrow wrote:

> *Or better yet just use `selectedFeaturesCount()`.*

You are right, thanks Nathan

#22 - 2014-01-29 03:29 PM - Alvaro Huarte

Hi, I have a question, it is possible use in QGIS/Qt something similar to IEnumerable/IEnumerator interfaces of c# ?

Thanks in advance

#23 - 2014-01-29 03:35 PM - Nathan Woodrow

In C++ or Python.

What are you trying to do?

#24 - 2014-01-29 03:47 PM - Alvaro Huarte

In c# we can write a method as...

IEnumerable<QgsFeature> QgsVectorLayer::selectedFeaturesEnum(){

```
 QgsFeatureRequest req;
 if ( geometryType() == QGis::NoGeometry )
   req.setFlags( QgsFeatureRequest::NoGeometry );
     foreach ( QgsFeatureId fid, mSelectedFeatureIds )
     {
        QgsFeature feature;
        features.push_back( feature );
        getFeatures( req.setFilterFid( fid ) ).nextFeature( feature );
     yield return feature;
       }
       yield break;
     }
```

It is a iterator in C++, but the data are sequentially read

#25 - 2014-01-29 03:52 PM - Nathan Woodrow

Like we have in Python. Well layer.getFeatures returns a lazy iterator that only evals when you call next. A bit like a generator in Python.

I'm not sure if C++ has it's own concept of this or you have to write you own.

#26 - 2014-01-29 03:55 PM - Alvaro Huarte

Thanks Nathan, It was a curious.
Best Regards

#27 - 2014-01-31 02:15 AM - Alvaro Huarte

Rhenriques Henriques wrote:

> *Hi again*
>
> *I've isolated the culprit. This slowness is due to the experimental "Geometry copier" plug-in by Nikulin Evgeniy. Try to check if, in similar problems, people have this plug-in installed. Warn the author about this "painful" issue.*
> *Cheers*

Hi Rhenriques, anyone has reported this "painful" issue ?
Alvaro

#28 - 2014-01-31 05:59 AM - Rhenriques Henriques

Hi Alvaro

So far, in my case, things are behaving normally, after uninstalling the "Geometry copier" plug-in. I'll wait for a plug-in upgrade. I don't know if there are further reports of this issue. I guess that it's not that common that people need to use databases with hundreds of thousands of points or a few millions. Otherwise, with this plug-in installed, they would have notice for sure ;-)

Cheers

#29 - 2014-01-31 12:22 PM - Alvaro Huarte

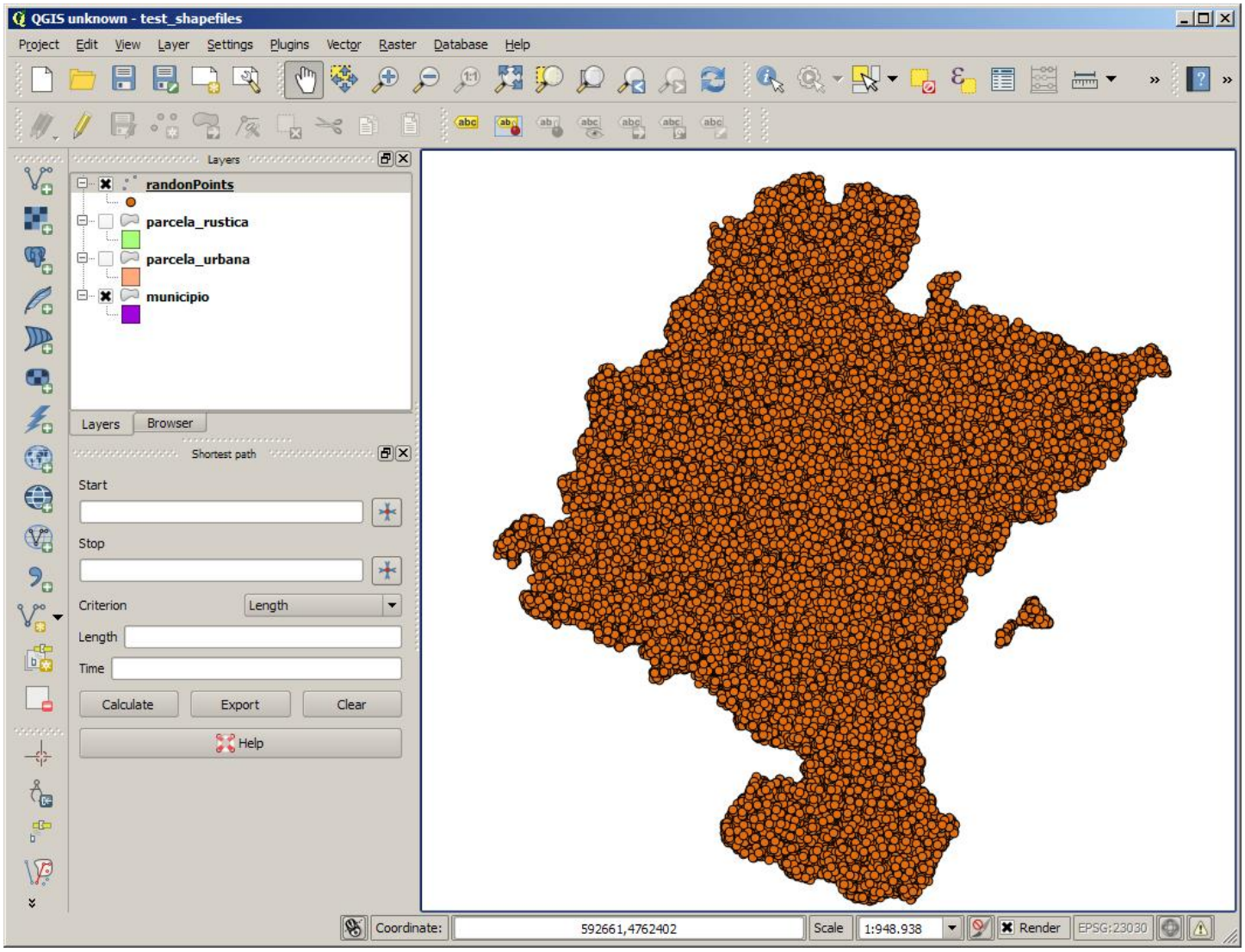
Hi, I added a new issue to GeometryCopier plugin for notify it to author:
https://github.com/yellow-sky/GeometryCopier/issues/1

Best regards
Alvaro

#30 - 2014-02-01 01:34 AM - Alvaro Huarte
- File RandomPoints.JPG added

Hi Rhenriques, I tested successly the "Random Points" plugin (doRandPoints.py).

I created a new point shapefile with 40000 points using as filter a very complex polygon layer and "Add result to Canvas" checked.
I work fine here.



You could add a new issue with the data to cause the bug
Best Regards

Alvaro

#31 - 2014-02-01 06:41 AM - Rhenriques Henriques

- File Screen_Shot_2014-02-01_at_2.40.33_PM.png added

Hi Alvaro

Here it crashes immediately (NB vs ddec663. Maybe it's a Mavericks related issue or another Plug-In related issue. I'll try to check later for this.

Cheers

#32 - 2014-02-01 12:02 PM - Evgeniy Nikulin

GeometryCopier fixed

#33 - 2014-02-01 12:42 PM - Alvaro Huarte

Evgeniy Nikulin wrote:

> *GeometryCopier fixed*

Thanks Evgeniy !

#34 - 2014-02-01 01:01 PM - Rhenriques Henriques

Working perfectly now! Thanks Evgeniy.
Cheers

#35 - 2014-02-02 03:06 AM - Evgeniy Nikulin

Thanks you!

Files

RandomPoints.JPG	176 KB	2014-02-01	Alvaro Huarte
Screen_Shot_2014-02-01_at_2.40.33_PM.png	119 KB	2014-02-01	Rhenriques Henriques