



## A Look at the EIA Revision Pattern

Posted by [Sam Foucher](#) on October 5, 2006 - 11:45am

Topic: [Supply/Production](#)

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The [EIA](#) is periodically revising its monthly oil production numbers. We have a natural tendency to focus on the front month but very often numbers are revised up to 3 years. In this post, I try to address the following questions:

1. How frequent are these revisions?
2. How biased are the first estimates in the long term: are they too optimistic or too pessimistic?
3. How is the bias changing according to the petroleum category (i.e. All liquids, Crude Oil, NGPL and Other Liquids)?

**[editor's note, by Prof. Goose]** If you liked this story, don't forget to rate it at reddit or digg (buttons above under the title) or submit it to your favorite link recommendation service, like metafilter or fark. Share and enjoy!

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I compiled 42 International Monthly Reports from the EIA since 2003 (the data are in a spreadsheet [here](#)).

I give the post summary first for people who don't want to scroll down through all the charts:

### Summary

The two graphs below are summarizing the observed changes over time. Note that there is a significant change in the curve behavior around 27 months.

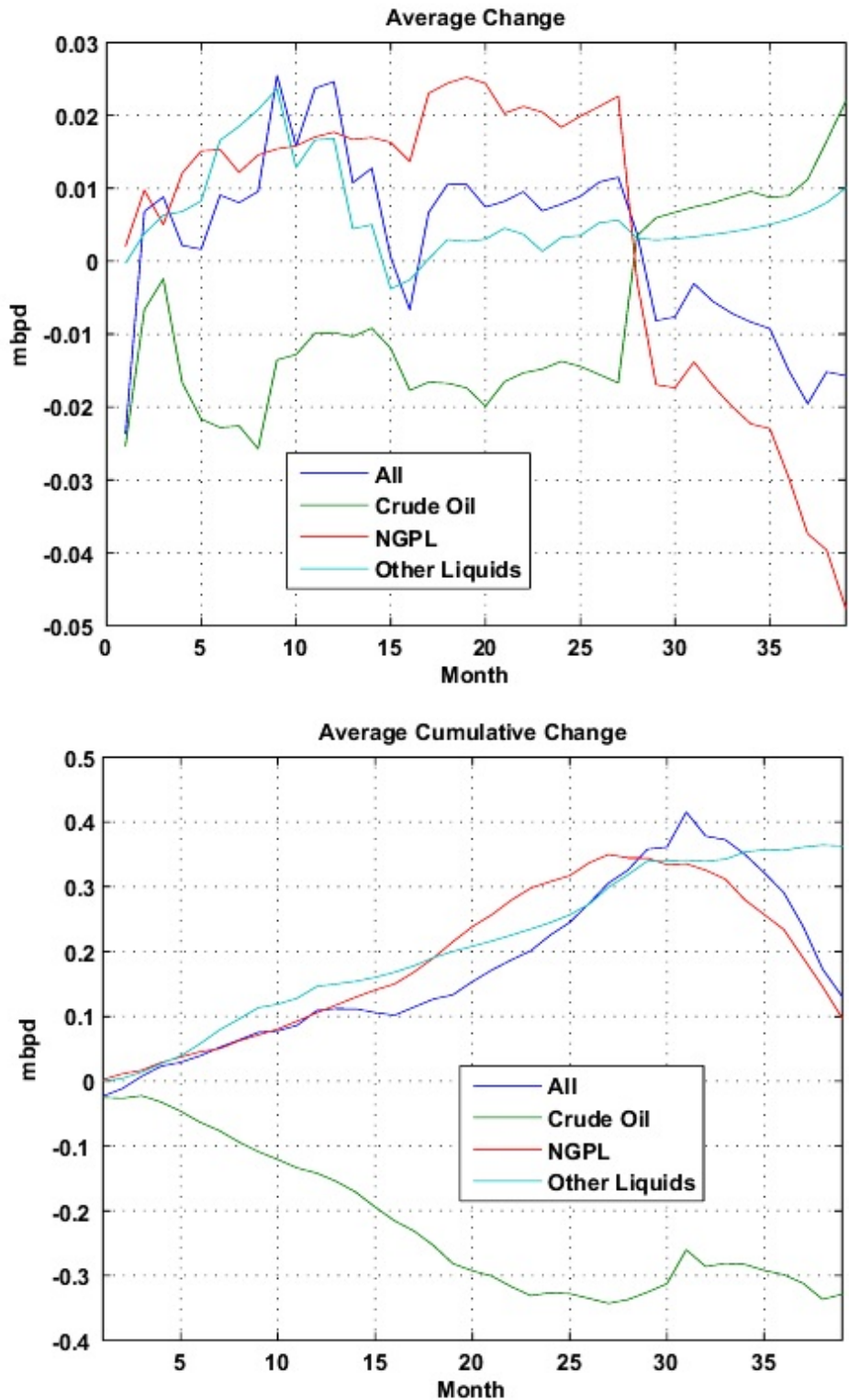


Fig 1.- Observed average variations on an initial estimate versus the number of months since this estimate was issued. Click to enlarge.

For the last two years:

- Corrections are quite small, around 0.3-0.5%.
- NGPL was almost always underestimated by 0.2 mbpd.
- Crude oil production numbers are generally overestimated by 0.2 mbpd. In average,

estimates that are older than two years have been revised downward by 0.3 mbpd.

- The other Liquids category seems to be underestimated but a kind of seasonal pattern can be observed since 2005 (See Fig. 13, underestimation at the beginning of the year and overestimation at the end (Ethanol?)).
- The early all liquid estimates seem too pessimistic by 0.2-0.4 mbpd in average. However, the corrections have gone negative since the end of 2005.

In conclusion, One should be careful when a production peak is seen in the data (as it was the case for December 2005). The lifespan of an early estimate can cover at least two years.

## All Liquids

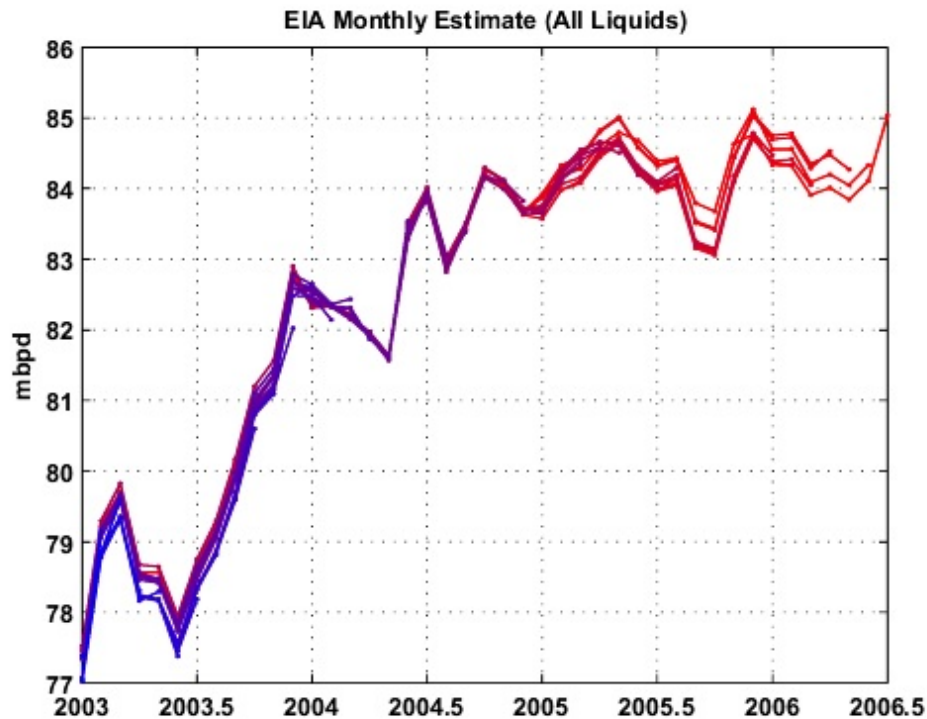


Fig 2.- All Liquids (all the Monthly reports ranging from 2003/03 in blue to 2006/09 in red).  
[Click to enlarge.](#)

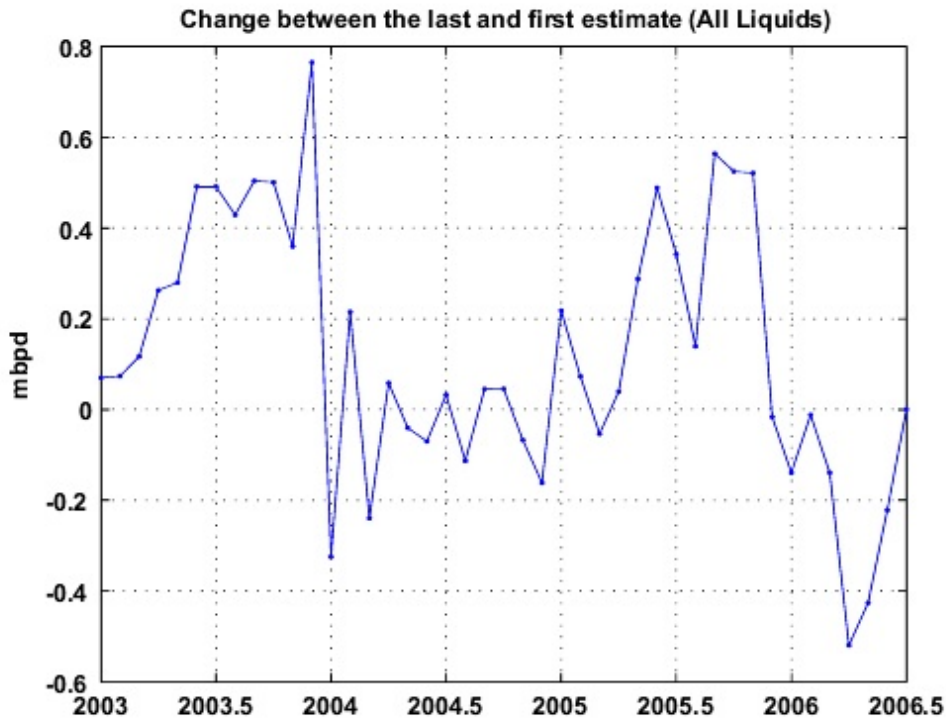


Fig 3.- Estimate change (i.e the last estimate minus the first estimate). Click to enlarge.

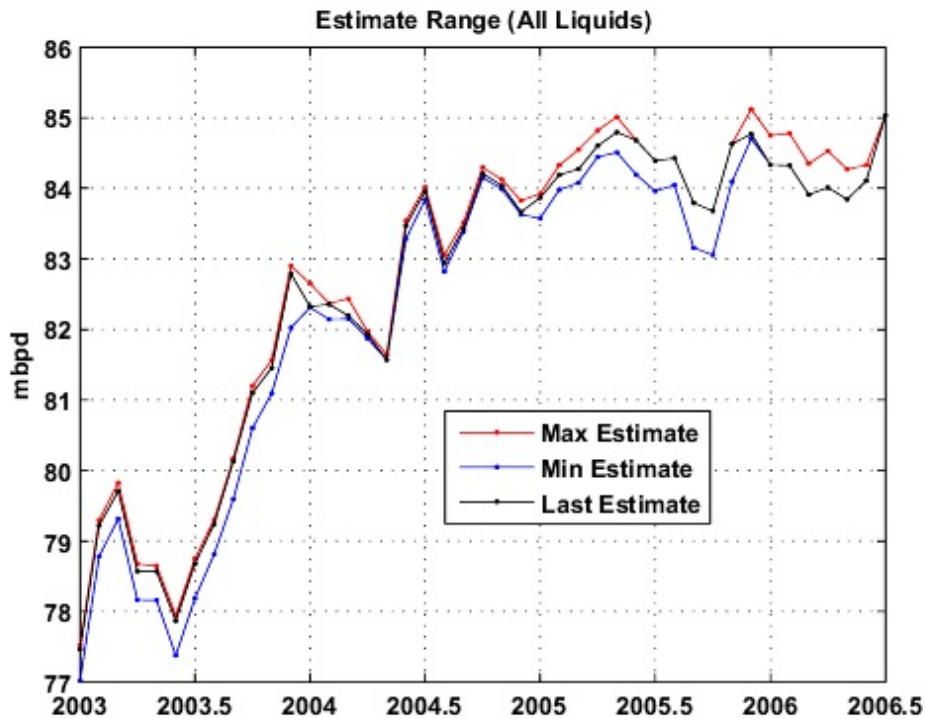


Fig 4.- Estimate range (the last estimate (2006/09) is in black). Click to enlarge.

## Crude Oil

## EIA's definition:

Crude Oil: A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include:

1. Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included;
2. Small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals;
3. Drip gases, and liquid hydrocarbons produced from tar sands, oil sands, gilsonite, and oil shale.

Liquids produced at natural gas processing plants are excluded.

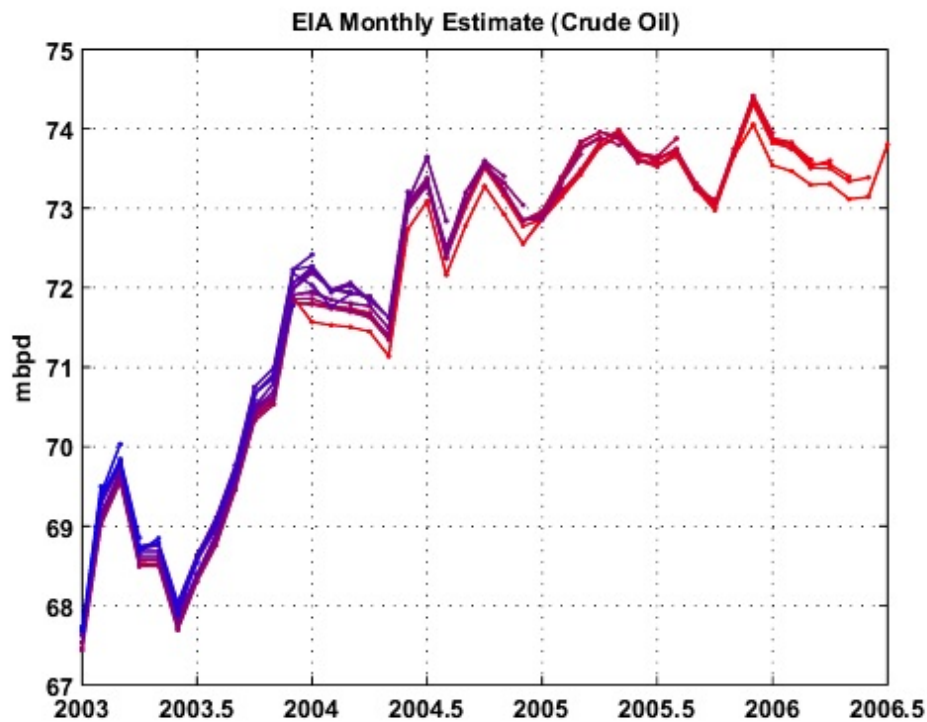


Fig 5.- All Liquids (all the Monthly reports ranging from 2003/03 in blue to 2006/09 in red).  
*Click to enlarge.*

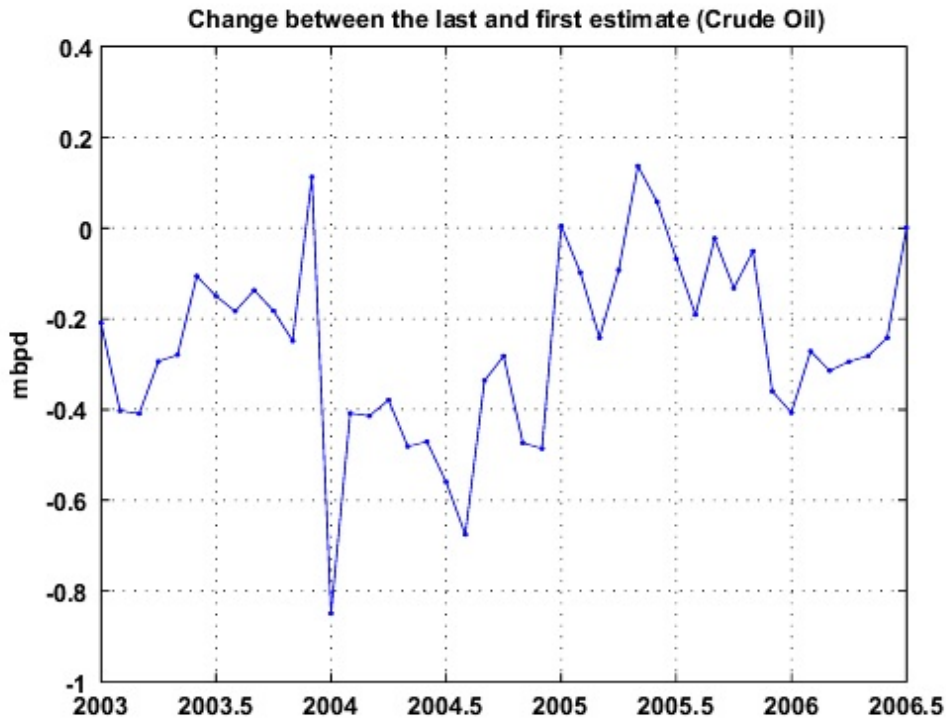


Fig 6.- Estimate change (i.e the last estimate minus the first estimate). Click to enlarge.

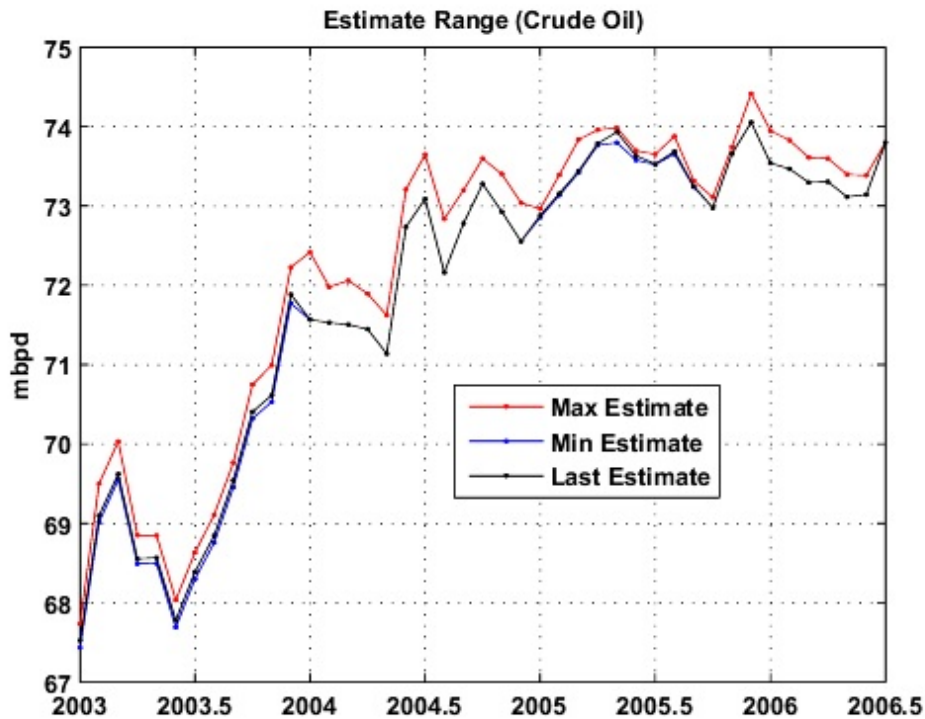


Fig 7.- Estimate range (the last estimate (2006/09) is in black). Click to enlarge.

## Natural Gas Plant Liquids (NGPL)

Those hydrocarbons in natural gas that are separated as liquids at natural gas processing plants, fractionating and cycling plants, and, in some instances, field facilities. Lease condensate is excluded. Products obtained include ethane; liquefied petroleum gases (propane, butanes, propane-butane mixtures, ethane-propane mixtures); isopentane; and other small quantities of finished products, such as motor gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.

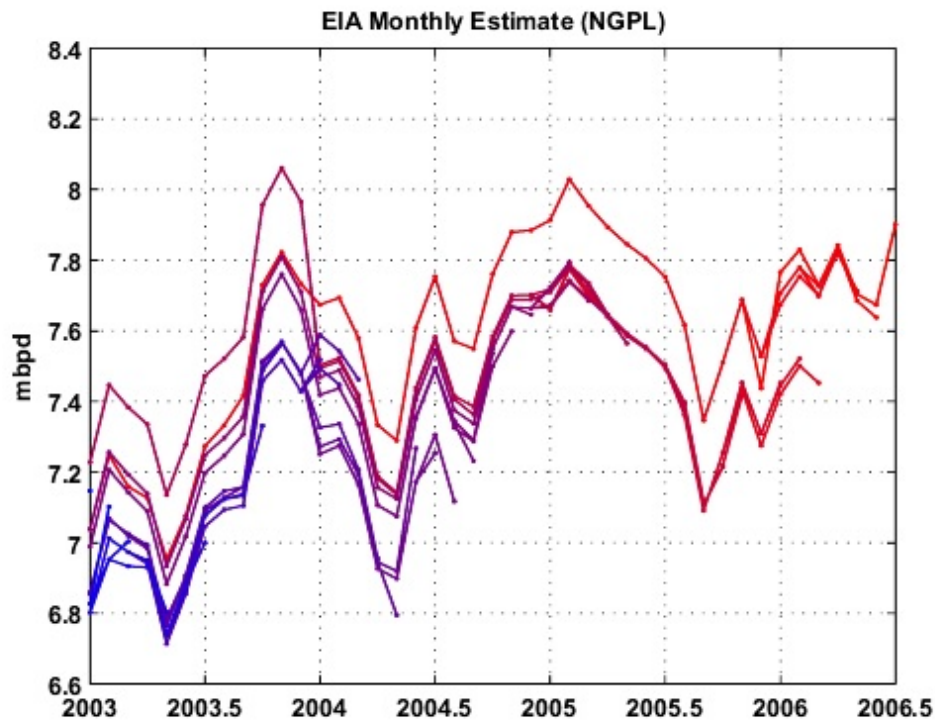


Fig 8.- All Liquids (all the Monthly reports ranging from 2003/03 in blue to 2006/09 in red).  
[Click to enlarge.](#)

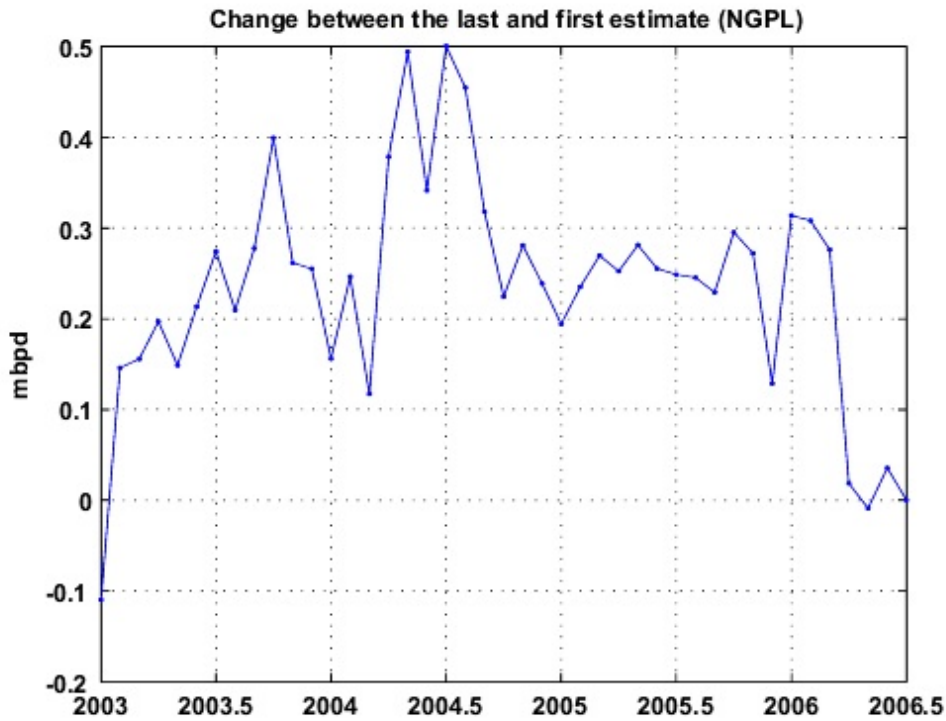


Fig 9.- Estimate change (i.e the last estimate minus the first estimate). Click to enlarge.

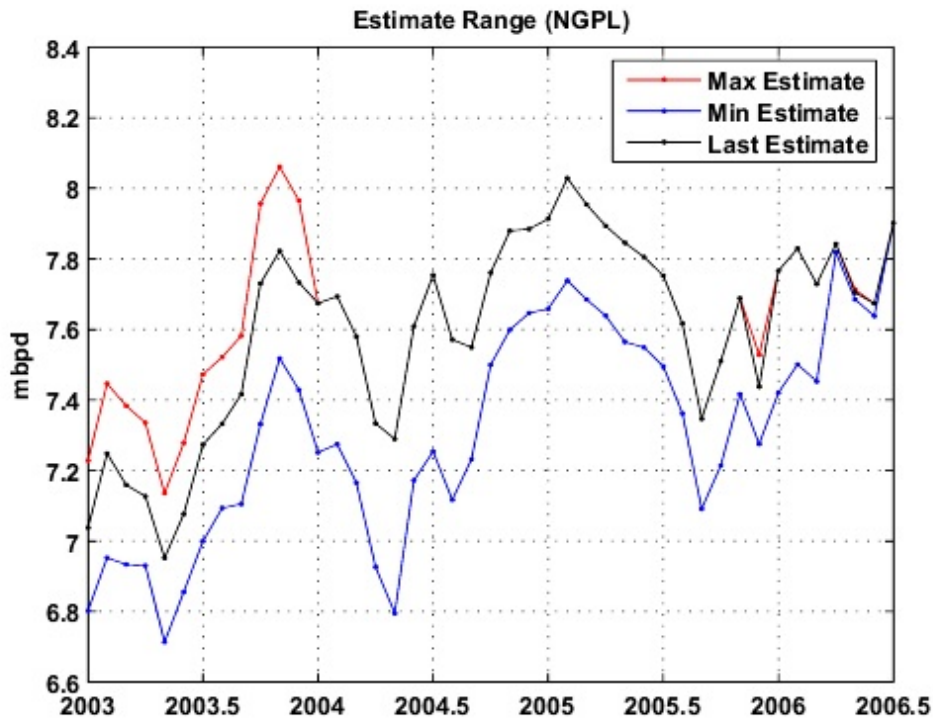


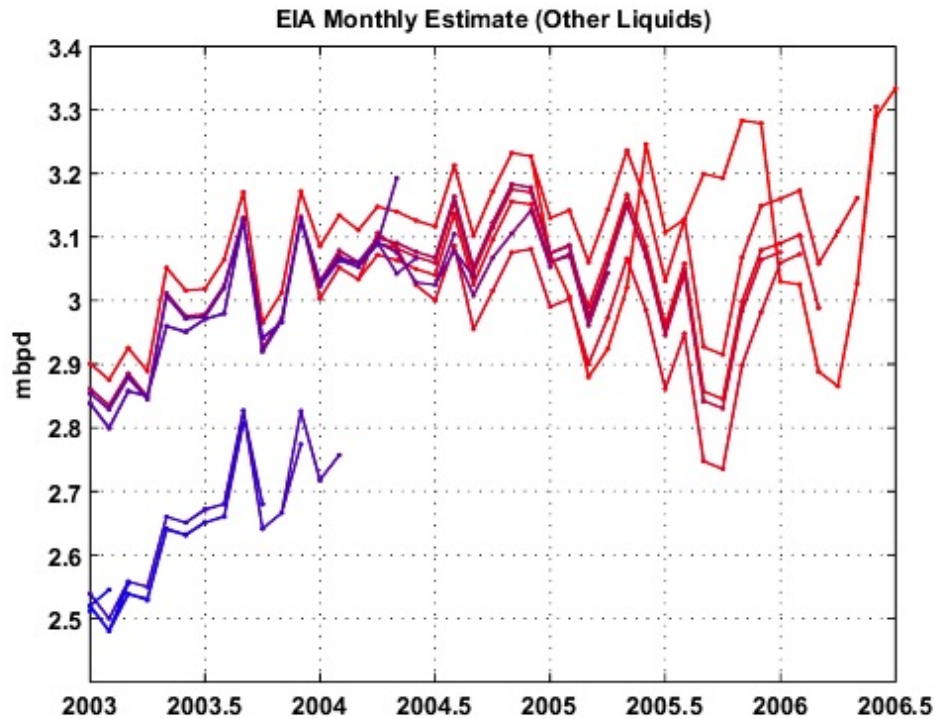
Fig 10.- Estimate range (the last estimate (2006/09) is in black). Click to enlarge.

## Other Liquids



Ethanol, liquids produced from coal and oil shale, non-oil inputs to methyl tertiary butyl ether (MTBE), Orimulsion, and other hydrocarbons.

Note: There are no spreadsheets on the "Other Liquids" production. Numbers are simply derived from All Liquids minus Crude Oil + NGPL .



*Fig 11.- All Liquids (all the Monthly reports ranging from 2003/03 in blue to 2006/09 in red).  
Click to enlarge.*

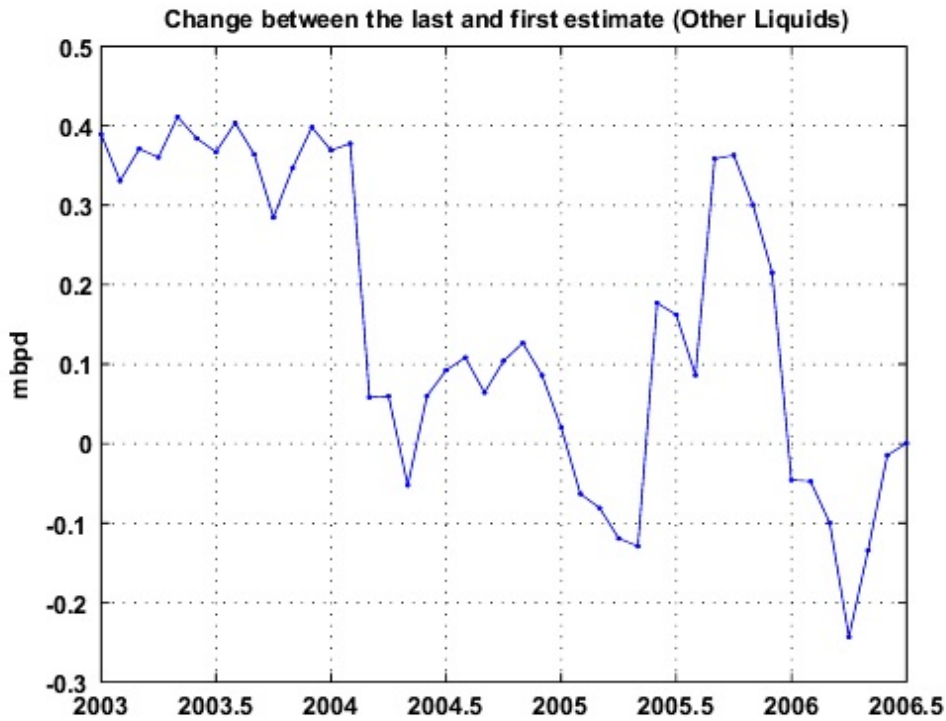


Fig 12.- Estimate change (i.e the last estimate minus the first estimate). Click to enlarge.

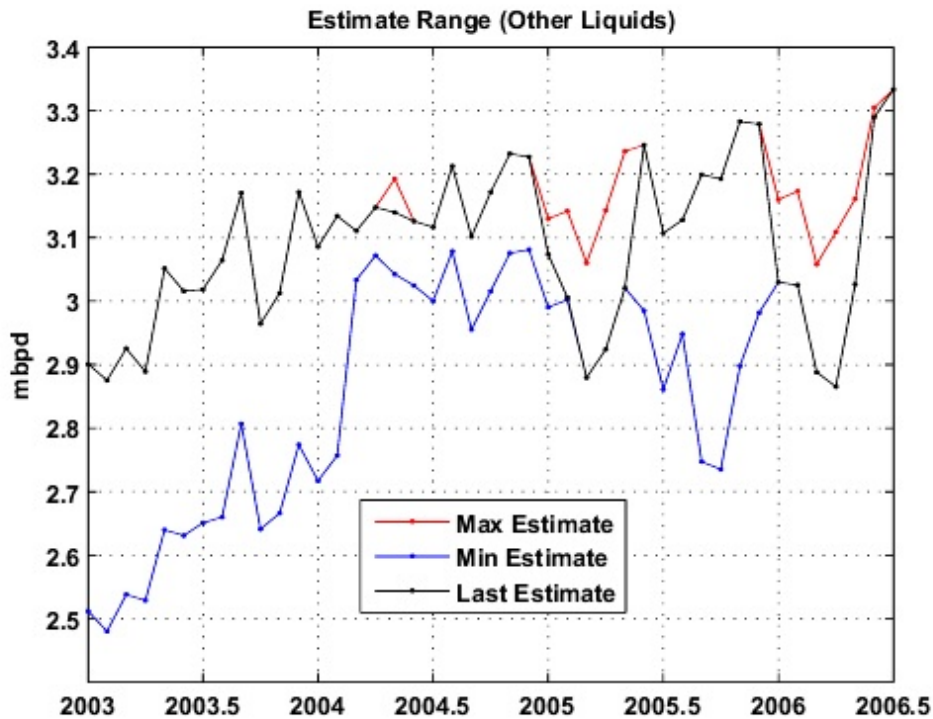


Fig 13.- Estimate range (the last estimate (2006/09) is in black). Click to enlarge.



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