

Huge amount of nutrients is inflowing into the Gulf of Mexico from Mississippi-Atchafalaya River Basin which primarily come from the N and P in the fertilizer. The production of algal would rise as the nutrient level increase. This will use up the oxygen support marine animals and consequently lead to hypoxia. The Nature Conservancy has found that there is a \$82 million loss on seafood and tourism industry.

Hypoxia task force (HTF) has established in 1997 to reduce the nutrient flow and the size of hypoxia. It has launched 2 action plans in 2001 and 2008 respectively aiming to reduce the hypoxia below 5000 km<sup>2</sup> by 2015. However, these are not fully successful, the area is decreasing but it still about 3000 km<sup>2</sup> above the goal. Therefore, HTF announced an extension of time to 2035.

Some policies have to be implemented to achieve the goal. The water quality trading (nitrogen credits) has implemented in Ohio River Basin which is quite successful, the government should make it oblige and expand it to all the state adjacent to Mississippi River Basin.

Besides, the government should consider to control the monopoly power of fertilizer supply. By doing so, scientists work for the government can accurately predict how much fertilizer each farm actually need according to the farm scale.

In addition, the model prediction has successfully reduced the loading by 18-20%. Therefore, the government should keep supporting scientist to develop the model to minimize the impact to the ecology.