In our paper, we focus on addressing problems of water quality forecast and the building of the lake’s evaluation system. Then we apply them into Chao Hu. Lastly, we analyze the results, meanwhile, putting forward suggestions on the improvement of the land management.

First and foremost, this paper mainly places emphasis on the [nitrogen](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%B0%AE%E7%A3%B7%E8%BE%93%E5%87%BA) [and](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%B0%AE%E7%A3%B7%E8%BE%93%E5%87%BA) [phosphorus](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%B0%AE%E7%A3%B7%E8%BE%93%E5%87%BA) input as the **criterion** of lake, then a model for predicting water quality can be divided into two sections. We formulate an export coefficient model accounting for factors influencing the output of N and P in order to estimate and forecast nitrogen and phosphorus load under the different land use. On the basis of obtaining N and P outputs, BP neural network model is built by combining with indictors as inputs like temperature, PH and so on to predict potentially-toxic algal blooms. To ground this model in reality, we incorporate 91 groups data collected from the websites for train and 19 groups data used for the simulation. The simulation results agreeing well with real situation indicate that the model is efficient and reliable.

Secondly, [a](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) [strategy](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95) [based on](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) [analytic](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) [hierarchy](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) [process](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) is [proposed](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95" \t "_blank) to build lake evaluation model[.](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E5%B1%82%E6%AC%A1%E5%88%86%E6%9E%90%E6%B3%95) We collect the values of seven indexes judging lakes through local knowledge and expertise. Then we use AHP to determine the weight of seven factors and finally evaluate Chao Hu successfully. We draw conclusion that Chao Hu lies inⅢ，middle level.

Eventually, the [sensitivity](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) [analysis](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) of the evaluation [model](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90) [is](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) [carried](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) out [to](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) [ensure](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90" \t "_blank) the [utility](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90). It is found that the model is shortage of [insufficient](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%A8%B3%E5%AE%9A%E6%80%A7%E4%B8%8D%E8%B6%B3) [stability](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%A8%B3%E5%AE%9A%E6%80%A7%E4%B8%8D%E8%B6%B3" \t "_blank) by analyzing the [sensitivity](http://cn.bing.com/dict/clientsearch?mkt=zh-CN&setLang=zh&form=BDVEHC&ClientVer=BDDTV3.5.0.4311&q=%E6%A8%A1%E5%9E%8B%E7%81%B5%E6%95%8F%E6%80%A7%E5%88%86%E6%9E%90) of environmental awareness, for lakes evaluation is a complicated system and cannot be described by simple indexes. So the model need to be improved.