

Illegal Scattered Garbage in the Protected Water Source Basin and the Examination of Polluted Water to Verify It's Safety by Use of Small Aquatic Creatures

Kago, Shouji Kinoshita, Makoto Kubo, Yuuhi Fukuhara, Yasuaki Beppu, Ryou
Nitta High School, Matsuyama City, Ehime Prefecture, Japan

The water for Matsuyama City are led from the Protected Ishite River source basin. It's located at the center of Takanawa Peninsula. The national highway No.317 penetrated this protected river source basin in 1997. This highway N0.317 was built in response to establishment Imabari-Onomichi route (Honshyu-Shikoku bridge).

Illegal garbage in this protected river source basin began to conspicuous with the increase of the traffic density. We thought this was a big problem for the safety of water, in company with illegal felling of the forest that is protected river source. There upon, since 1998 we have continued the actual condition survey of the garbage in this area. We have investigated in every early spring, when garbage are easy to confirm. As a result, we were able to grasp the characteristic place where easily cast the garbage, and the character of garbage movement.

We have done the water quality survey (COD measuring) of four main tributary of Ishite River with the portion once a week. It is because many case, the garbage are scatter in the gorge of the branches. At the same time, we have scoped up there water. In the school, we have kept Medakas and River shrimps by it. And we have observed the influence to creatures by adding scoped water.

We have understood following through this survey.

- ① As for the month when there is much precipitation, COD is high, and the number of death of aquatic creatures is high
- ② In the tributary where we can find a lot of garbage, the volume of COD is high and many creatures have died.
- ③ The cause of deterioration of the water quality are able to point out not only these garbage but the construction of the river shore or the construction taking out sand of sand control dam.
- ④ In this survey area the water quality is so bad even in river source. The COD value of the most up stream and the most down stream was same. Even which the COD value is near to the Osaka Bay. We are estimating this course is related to the existence of waste disposal place and golf course, camp place of the summit area in the protected river source area.