

The water quality of underground dam in Miyakojima and Izena Island.

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It is well studied that the surface dam constructions have a significant impact on nutrient and carbon cycles via photosynthesis in dam lakes. Underground dams are recently emerging, new type of dams developed for an effective use of groundwater, which shut groundwater flow and raise ground water level. However, detailed researches on impact of subsurface dams on water quality are quite limited to date. In this research, I analyzed water quality of storage water and compared with unperturbed spring water nearby, to evaluate their impact on water quality in groundwater. The results show that alteration of water quality in underground dams was quite little, whereas surface dam water was highly altered from unperturbed river water by photosynthesis.

Keywords: undergrounddam, water quality, nutrient carbon cycle, photosynthesis