
Estimation of Carbon Fixation by Trees Planted on a Steeply Inclined Bedrock Base Using UAV -Long-term Transition of Planting Trees with Consideration for Biodiversity-

Yutaka IKEDA, Masahiro KURODAI, Yukio WADA, Kim Jonghwan

The quarry site at the Miyagase Dam is a slope of 4.8 ha in a harsh environment with a steeply inclined bedrock base for the growth of plants. In 1995, 70,000 seedlings of broad-leaved medium-and-high trees considering biodiversity were planted using the pot seeding planting method. To verify the effect of this vegetation, we conducted follow-up field surveys on the growth of trees in 2001 and 2007, and confirmed that the ecological transition of trees is progressing smoothly. In July 2018, 23 years after planting, we attempted an aerial survey of the entire slope using a UAV (unmanned aerial vehicle). The result of this survey confirmed that the slope planting approached the climax vegetation in the ecological transition. Although slope planting with trees is expensive, there are carbon dioxide fixation effect, biodiversity conservation effect, etc. that are not found in planting herbs.
