

ABSTRAK

Pulau Tabuhan, Banyuwangi memiliki potensi ekosistem terumbu karang yang tinggi yang dimanfaatkan dalam sektor wisata bahari dan penangkapan ikan menggunakan bahan peledak. Penelitian ini dengan tujuan mengetahui kondisi terumbu karang, struktur komunitas dan biomassa ikan karang, serta mengetahui hubungan persentase tutupan karang hidup dengan kelimpahan dan biomassa ikan karang di Pulau Tabuhan, Banyuwangi. Metode yang digunakan yaitu metode survei. Pengambilan data terumbu karang menggunakan *Underwater Photo Transect* (UPT), kemudian dianalisis dengan *Coral Point Count with Excell Extensions* (CPCe). Pengambilan data struktur komunitas dan biomassa ikan karang menggunakan metode *Underwater Visual Census* (UVC). Hubungan antara tutupan karang hidup dengan kelimpahan dan biomassa ikan karang dianalisis dengan korelasi pearson. Hasil penelitian menunjukkan bahwa rata-rata persentase tutupan karang hidup termasuk kategori sedang (39,8%). Kelimpahan ikan karang berkisar 1,22–5,91 ind/m², indeks keanekaragaman sedang ($H' = 1,88-2,14$), indeks keseragaman stabil ($E = 0,728-0,734$), indeks dominansi rendah ($C = 0,15-0,20$), dan biomassa dengan kategori rendah (70,34-283,55 kg/ha). Berdasarkan hasil analisis diketahui bahwa hubungan persentase tutupan karang hidup dengan kelimpahan dan biomassa ikan karang termasuk dalam kategori sangat kuat.

Kata kunci: Biomassa; Ikan Karang; Pulau Tabuhan; Struktur Komunitas; Tutupan Karang.

ABSTRACT

Tabuhan Island, Banyuwangi has a high potential for coral reef ecosystems that are utilized in the marine tourism sector and fishing using explosives. This study aims to determine the condition of coral reefs, the structure of coral reef communities, and coral reef fish biomass, as well as to investigate the relationship between the percentage of live coral cover and the abundance and biomass of coral reef fish in Tabuhan Island, Banyuwangi. The method used is the survey method. Coral reef data collection was conducted using the Underwater Photo Transect (UPT) method, followed by analysis using Coral Point Count with Excel Extensions (CPCe). Data collection for coral reef community structure and fish biomass was performed using the Underwater Visual Census (UVC) method. The relationship between live coral cover and coral fish abundance and biomass was analyzed using Pearson correlation. The results of the study showed that the average percentage of live coral cover was in the moderate category (39.8%). Coral fish abundance ranged from 1.22 to 5.91 ind/m², with moderate diversity indices ($H' = 1.88-2.14$), a stable evenness index ($E = 0.728-0.734$), a low dominance index ($C = 0.15-0.20$), and low biomass (70.34–283.55 kg/ha). Based on the analysis results, it was found that the relationship between the percentage of live coral cover and the abundance and biomass of reef fish was very strong.

Key words: *Biomass; Community Structure; Coral Cover; Reef Fish; Tabuhan Island.*