In this paper, the landscape pattern and ecotourism carrying capacity of Pan’an Lake Wetland Park in Xuzhou city were analyzed by means of geographic information system technology, field investigation, questionnaire survey, and other methods. The results showed that: (1) In the classification of first-level landscape elements, water patches accounted for 63.879% of the total area and had a high degree of aggregation; the number of green space patches was the largest and the average patch density was the largest; the construction land area was the smallest, the aggregation degree was the lowest; Shannon diversity index (SHDI) was 0.872, Shannon evenness index (SHEI) was 0.794. (2) In the classification of second-level landscape elements, the area of water surface was 2.256 times of wetland, the area of multi-layer green space was 2.19 times of grassland. The area of building was the largest in construction land. The shape index (LSI) of road was the largest. The SHDI was 1.538, and the SHEI was 0.791. (3) The ecotourism carrying capacity of Pan’an Lake Wetland Park was 23,226–35,240 persons/day, 8,477.49–12,862.6 thousand persons/year, watching-birds capacity was the limiting factor of ecological capacity, while catering facilities were the limiting factor of facility capacity. (4) Landscape pattern has a certain impact on the carrying capacity of ecotourism. The higher evenness index increased the possibility of tourists’ diversion in different scenic spots in peak season and the bird watching capacity should be improved by increasing the LSI of the roads in Pan’an Lake Wetland Park. Ecotourism carrying capacity may be increased by increasing construction land area, but the ecological effect of wetland park may be reduced.

**Keywords:** Landscape pattern, Ecotourism, Pan’an Lake, Wetland park