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Heritage objects as a resource for the development of tourism within the states and territories of Australia

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Abstract. The article discusses the Australian heritage sites as a resource base for the introduction of new tourist destinations. The relevance of the study of Australian tourism resources related to the increase in tourist flow, the prospects for the development of various types of tourism and the growing interest Ukrainian tourists are taking in this country is

substantiated. The significant tourist potential of the country, the uniqueness and specificity of its components are highlighted: natural (primarily, vegetation and wildlife, as well as relief and climate), historical and cultural objects. It is noted the historical and cultural potential deserves to be in greater demand, because a large number of objects of historical and cultural heritage retain and disseminate authentic information about the historical past of the country, its ethnic, cultural characteristics and traditions. The purpose of the work is to explore the distribution of various heritage objects within the states and territories of Australia as an important resource for the development of various types of tourism. The database of the research is the information from the Australian Bureau of Statistics and the website of the Ministry of Environment and Energy. The paper analyses and assesses the number, composition, and degree of diversity of heritage sites and their locations on the territory of administrative units. The study was completed using methods of mapping, geographical analysis, information analysis techniques, namely the calculation of the entropy index. It was found that the regions of Australia provide outstanding diverse and unique resources, which creates preconditions for the development of new tourist destinations and the further growth of the tourism industry. The states and territories with the largest number and diverse composition of heritage sites and significant potential opportunities for the development of various types of tourism are identified. It was noted that Australia is a new active tourist destination for Ukrainian tourists that has significant prospects. In addition to the classic excursion routes and visits to wildlife parks, there are popular combined routes such as: excursion program with a beach holiday; combination of excursions with active tourism; professional training programs for agricultural workers combined with visiting heritage sites and beach recreation. New tourist routes are associated with the development of author's tours with a unique program in accordance with the features of the country and the wishes of tourists and the wider use of the country's historical and cultural heritage.

Key words: New tourist destinations, Australia, natural and historical-cultural heritage sites, tourist resources, entropy index, assessment of availability.

Об'єкти спадщини як ресурс розвитку туризму штатів та територій Австралії

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Анотація. В статті розглянуто об'єкти спадщини Австралії як ресурсної бази для запровадження нових туристичних напрямків. Обґрунтовано актуальність дослідження туристичних ресурсів Австралії, пов'язану зі збільшенням туристичного потоку, перспективами розвитку різних видів туризму та зростанням зацікавленості українських туристів до цієї країни. Підкреслено наявність значного туристичного потенціалу країни, унікальність і специфічність його складових - природних (насамперед, рослинності і тваринного світу, а також рельєфу та клімату) та історико-культурних об'єктів. Наголошено, що натеper історико-культурний потенціал затребуваний значно менше, ніж він на те заслуговує. Адже велика кількість об'єктів історико-культурної спадщини зберігають і поширюють автентичні відомості про історичне минуле країни, її етнічні, культурні особливості та традиції. Мета роботи - дослідження поширення різноманітних об'єктів спадщини в межах штатів і територій Австралії як важливого ресурсу розвитку різних видів туризму. Інформаційною базою дослідження є дані австралійського бюро статистики та сайту міністерства навколишнього середовища та енергетики. В роботі виконано аналіз та оцінку кількості, складу, ступеню різноманітності об'єктів спадщини та їх розміщення на території адміністративних одиниць. Дослідження здійснено з використанням прийомів інформаційного аналізу та методу картографування. З'ясовано, що регіони Австралії забезпечені видатними різноманітними й унікальними ресурсами, що створює передумови подальшого

розвитку туристичної індустрії, розробок нових туристичних напрямків. Визначені штати і території з найбільшою кількістю та найрізноманітнішим складом об'єктів спадщини та, відповідно, значними потенціальними можливостями для розвитку різноманітних видів туризму. Наголошено, що Австралія – це новий туристичний напрямок для українських туристів, який активізується і має значні перспективи. Окрім класичних екскурсійних маршрутів з відвідуванням парків диких тварин, популярними є комбіновані маршрути: з екскурсійною програмою та пляжним відпочинком, поєднанням екскурсій з активним туризмом, професійні навчальні програми для працівників сільського господарства поєднані з відвідуванням об'єктів спадщини та пляжним відпочинком. Нові туристичні маршрути пов'язані з розробкою авторських мандрівок з унікальною програмою відповідно особливостей країни та побажань туристів і більш широким використанням історико-культурної спадщини країни.

Ключові слова: нові туристичні напрямки, Австралія, природні та історико-культурні об'єкти спадщини, туристичні ресурси, показник ентропії, оцінка забезпеченості.

Relevance of research. According to one of the most popular tourist resources “Lonely Planet” Australia has become one of the top tourist destinations in the world in 2019 (Best in travel. Lonely Planet, 2019). Tourists from around the world are strongly attracted by this exotic country. The more experienced among Ukrainian tourists have traveled sufficiently around Europe, Africa, Asia and are paying more and more attention the rather remote, but exotic and interesting destination Australia. The Ukrainian tourist market offers new tourist destinations in Australia, which requires a detailed study of tourism development resources.

Millions of tourists come to Australia, including Ukrainian ones, who are attracted mostly by a unique animal and plant world, which they have learnt about at school. Historical and cultural potential is much less in demand, although the list of heritage objects is dominated by historical and cultural objects (Department of the Environment and Energy. Australian Government, 2019). Therefore, the study of Australian states and territories is relevant especially in the aspect of the availability of heritage objects which is an important condition for the development of tourism. It is important to study not only the quantity but also the composition, the degree of heritage diversity.

Issues of international tourism are covered in works of O. O. Lubitseva, O. O. Beidyk, M. P. Malskaya, N. V. Antonyuk, Ye. V. Pankova, N. M. Ganich, and in works of foreign scientists like V.S. Senina, A. Yu. Alexandrov, V. Yu. Voskresensky, L. M. Gaudukevich, Godfrey Harris, Kenneth M. Kau and others. However, most of them cover the general issues of international tourism. More narrow topics, regarding the tourist potential of Australia, especially its historical and cultural achievements, have not been sufficiently studied.

The purpose of work is to study the distribution of various heritage objects within the states and territories of Australia as an important resource for the development of various types of tourism.

The material and methods of research. The Australian Bureau of Statistics and the website of the Ministry of Environment and Energy data was used as

the information base to assess the state and territory ownership of the heritage objects as tourist resources (Australian Bureau of Statistics, 2019; Department of the Environment and Energy. Australian Government, 2019).

We have made a geographic analysis of the natural, historical and cultural objects in the national heritage list of Australia that are important for the nation and indigenous peoples. The register includes indigenous heritage sites, flora and fauna species, state-designated sites in certain states and regions, as well as valuable underwater objects and landscapes. The Indigenous State Agency or the Australian Environmental Agency are usually responsible for reservation of these objects. This data is open and available on the official site (Department of the Environment and Energy. Australian Government, 2019).

The registry contains detailed information about each object of national heritage, like geolocation, a short history of occurrence, a summary of the economic and social properties associated with the object, current and past use and areas for further research in order to preserve the object. When developing new tourist destinations, we have taken into account only those objects, which are nominated for including in the list of national heritage.

In our work, we studied the legal prerequisites for the reservation and usage of valuable national heritage sites, international environmental protection documents, the Australian Environmental Protection and Conservation Act (EPBC), other federal laws and regulations, Australian National Long-Term Tourism Strategy (Australia's National Landscapes Program, 2019; Parliament of Australia, 2019; Tourism 2020. The National Long-Term Tourism Strategy, 2019). These documents contain the basic principles of conservation, tools for the management of national heritage and create the legal and scientific basis for scientific research.

In the research we used methods of mapping, geographic analysis, methods of information analysis, particularly the entropy index calculation.

Presentation of the main research material. Australia records the growth of the tourist flow. Accord-

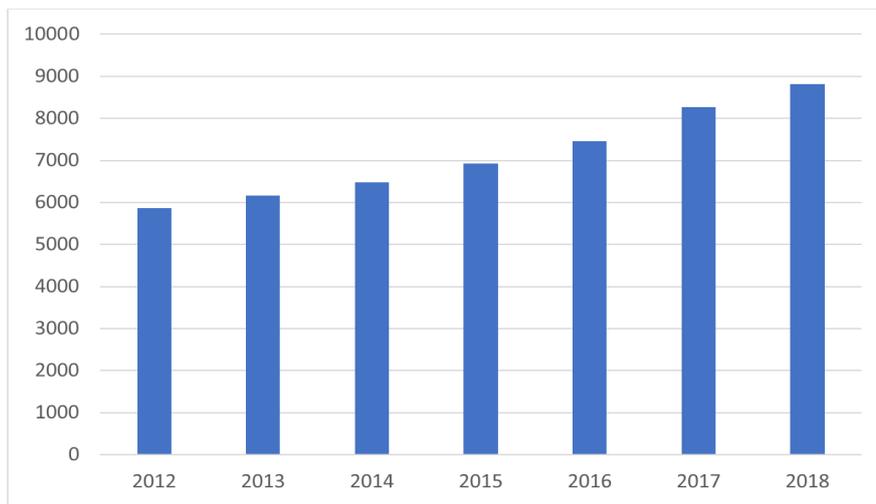


Fig. 1. Number of foreign tourists visiting Australia for the year, th.

Source: the data retrieved from the official website Australian Bureau of Statistics

ing to the Australian Bureau of Statistics (Australian Bureau of Statistics., 2019) the number of arrivals on the continent increased from 5.1 million in 2006 to 8.8 million in 2018. The vast majority of tourists visit the eastern territories and most income from tourists is spent there. Australian Bureau of Statistics, 2019; Tourism Australia Corporate Website.,2019; Tourism Research Australia, 2019) (Fig. 1, 2).

The effective study of various types of monuments and the definition of their possibilities of use is impossible without the development of appropriate classification systems, primarily those that reflect the fundamental specificity of the objects being studied.

For the development of the classification of historical, cultural and natural heritage sites in Australia, we took into account the provisions of the Ukrainian Law “On the Protection of Cultural Heritage”, the methods of O.O. Beidyk, O. Lyubitseva, P.O. Maslyak, V.I. Stafyichuk, E. F. Pankova, N. V. Fomenko, L. P. Tsaryk, G. V. Chernyuk, etc., certainly taking into account the peculiarities of the Australian approach to the counting and classification of objects of the inheritance (Department of the Environment and Energy. Australian Government, 2019; Ljubiceva O.O. 2002; Gavryljuk L. O., Gorbyk V. O. (ker.), Denysenko G. G., Kot S. I., Piskova E. M.,

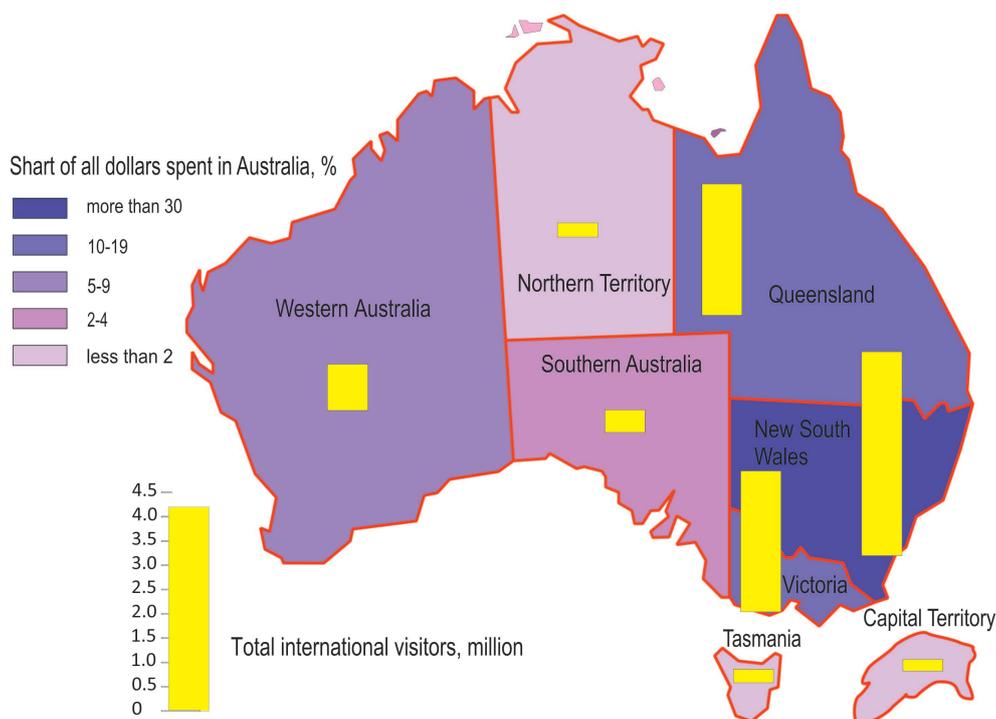


Fig. 2. Number of foreign tourists visiting states and territories of Australia for the year, ths.

Source: the data retrieved from the official website Tourism Research Australia and Tourism Australia Corporate Website

Table 1. Classification of Heritage Objects in Australia: types and kinds of objects. Source: the data retrieved from the official website Department of the Environment and Energy

Types of Heritage Objects	Kinds of Heritage Objects	Total Objects
Natural objects	nature reserves, national parks, coastal, reefs, marine regions, islands, archipelagos, lakes	64
Garden and park complexes	botanical gardens, national rose gardens and park complexes near parliament and palaces	8
Art objects	galleries, opera houses, exhibition centers	8
Administrative objects	post offices, houses of parliament, courts, residences of ambassadors, headquarters, mint, universities, colleges	230
Infrastructure objects	bridges, lighthouses, roads, airports, offshore fuel stations, dams	60
Religious objects	monasteries, cathedrals, chapels	5
Military objects	military training zones, defense areas, barracks, prison barracks, military complexes, military training zones	41
Economic and public objects	regional radio stations, shops, mines, underground industrial facilities	23
Memorial objects	memorials to the victims of wars	6
Archeological objects	artistic aboriginal landscapes, mammal fossils, national dinosaur monument	8

Skrypnyk P.I., Fedorova L. D. 2011; Zakon Ukrainy «Pro ohoronu kul’turnoi’ spadshhyny», 2019).

As a result, categories of heritage objects (UNESCO heritage objects, heritage objects of the Commonwealth, objects of national heritage), as well as types of objects were identified (Table 1, Fig. 3, 4).

In general, there are 452 UNESCO, the Commonwealth and National Heritage sites in all states and territories of Australia (Table 2). Note that historical and cultural objects predominate in the category of the Commonwealth and National Heritage, while there are 16 natural objects out of 19 objects in the UNESCO heritage list.

Many natural objects make up the resource base for classic excursion routes throughout the country. These are nature reserves and national parks with unique flora and fauna, oceanic coasts, coral reefs, sea zones, picturesque islands and archipelagos, lakes. Also included in the tourist routes are landscape gardens - botanical gardens, national rose gardens and park complexes near the parliament and palaces.

Among the historical and cultural heritage sites, tourist attractions are predominantly artistic - galleries, opera house, exhibition centers. In addition, the aboriginal art landscapes, fossil sites of mammals, the national dinosaur monument are included in the

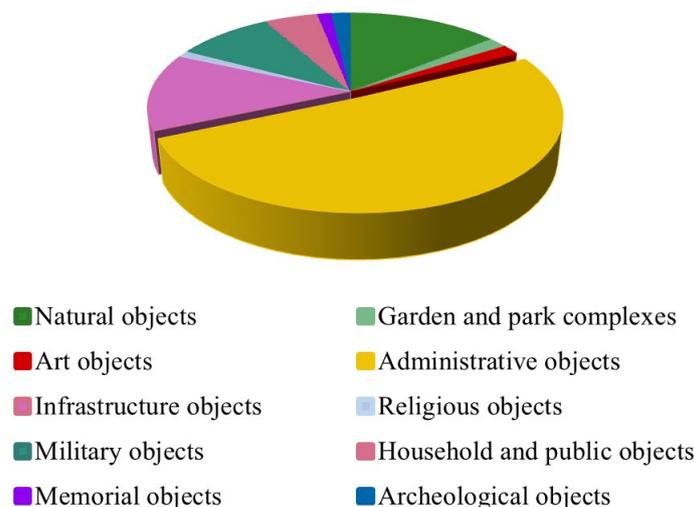


Fig. 3. Composition of heritage objects of Australian. Source: the data retrieved from the official website of the Department of the Environment and Energy

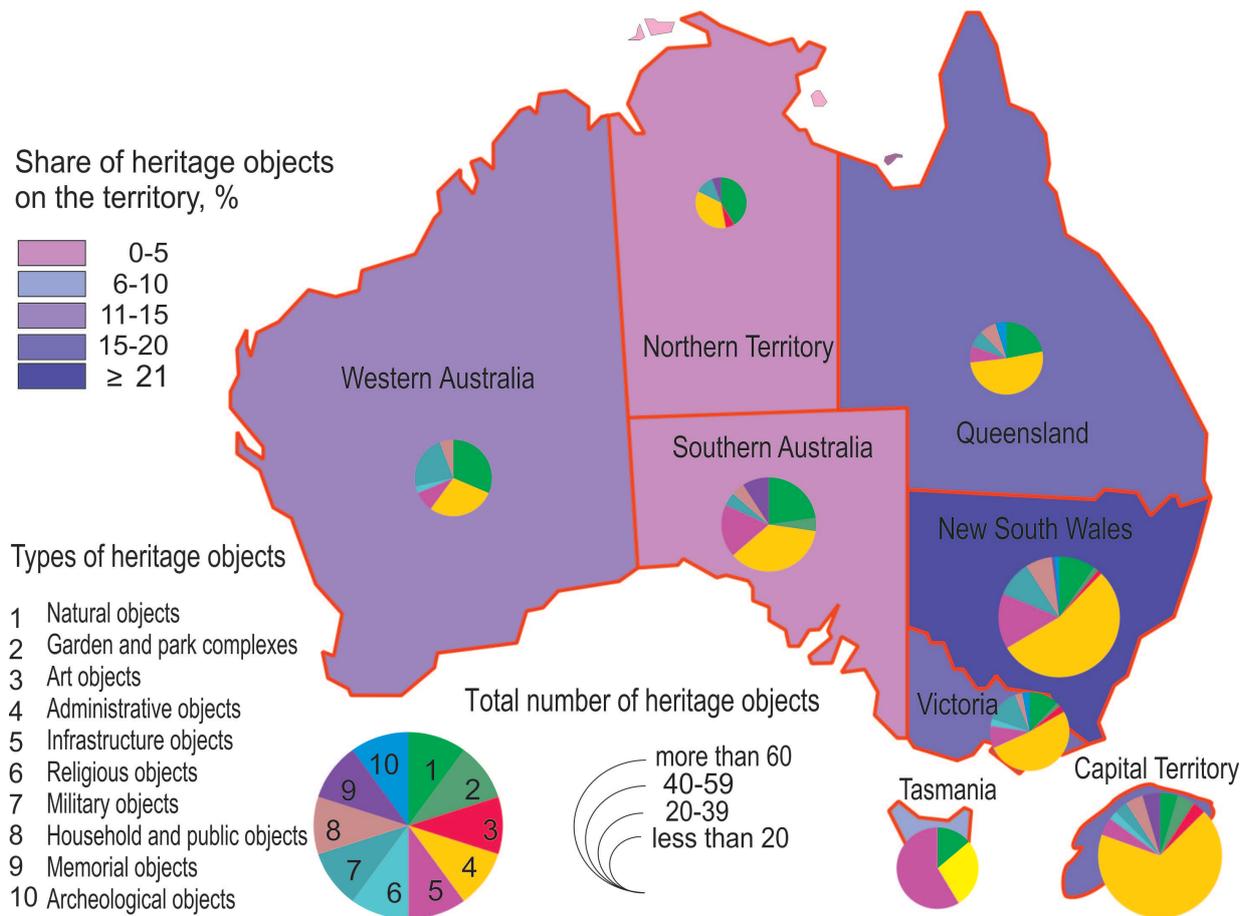


Fig. 4. Composition of Australian State and Territory heritage objects.

Source: the data retrieved from the official website of the Department of the Environment and Energy

tourist routes. However, the largest group consists of objects which we classified under the administrative type.

For tourism development, not only the quantity but also the variety of objects visited by tourists is of great importance. To assess the degree of diversity of heritage objects, which also affects the tourism potential of the territory in general, we used methods of information analysis, the indicator of entropy in particular, calculated by the formula:

$$E(A) = - \sum_{i=1}^n \omega_i \log_2 \omega_i,$$

where ω_p - the proportion of objects of a certain kind, and n - the number of kinds.

The function of mass entropy has the following properties. For $n = 1$, that is, the phenomenon is homogeneous. In our case, only one type of object is present, so it is converted to zero. $E(A)$ increases with the increase in the number of types and has the maximum value $E(A)_{max}$ in case of equality of probabilities that is the equality of the particles of all types of objects.

The results of the performed calculations are represented in Table 2.

Australia’s overall entropy index is 1.88, which indicates a significant diversity of objects on its territory.

According to the calculations, the states and territories were grouped into 3 groups according to the entropy index. The first group includes areas with low entropy (1.61-1.76) - Capital Territory, Western Australia, Northern territory, Tasmania. The territories included in the second group are those with the average entropy (1.80-1.83): Queensland and New South Wales. The third group includes only one region Southern Australia, which has the highest entropy index (1.88-2.18).

There is an interesting feature: those states which have the largest number of objects have entropy rates below average. This is due to the geographical features and to the historical past of the states. Understandably most of the old buildings and other historical and cultural objects have remained on the territories where cities began to be built earlier and where the capital was. As a result, there is a significant predominance of administrative objects (Fig. 4), which reduces

Table 2. Indicators of entropy and the number of heritage objects in Australian states and territories. Source: the data retrieved from the official website of the Department of the Environment and Energy and author's calculations

Name of state (territory)	Indicator of entropy	Number of objects
New South Wales	1.83	155
Capital Territory	1.61	87
Victoria	1.82	66
Queensland	1.80	41
Western Australia	1.75	35
Tasmania	1.75	29
Southern Australia	2.18	22
Northern territory	1.76	17
Australia	1.88	452

the entropy. Most of the natural objects were assigned to different categories of heritage during the period from 1983 until now until now which led to a lower number of them being indicated and an increased rate of entropy as a result. Natural objects are mostly preserved their pristine condition, for example, the rainforest of Tasmania and the natural complexes of the modern Blue Mountains National Park.

The maps we have created (Fig.4, 5) also show a certain discrepancy between the indicator of entropy and the number of heritage objects in the administrative units of Australia. Thus, states with a large number of heritage objects, such as New South Wales (155) and Metropolitan Area (87), have an average and low entropy index due to the significant dominance of administrative objects in them. It should be noted that, in spite of the significant number of one of the heritage types, there are almost all the types of objects in these states and territories and the overall diversity is higher than in South Australia which has the highest index of entropy with the smallest number of heritage objects. However, because the number of different types of objects in the state is approximately the same, the rate of entropy here has been high. A similar situation is observed in other states and territories of Australia and the country as a whole (Table 2, Fig.4, 5).

The most popular Australian regions among foreign visitors are New South Wales, Victoria and Queensland. At the same time, New South Wales got most of costs, received most of the tourist income, which increased by 11% to 10 billion dollars during five years, of which 9 billion dollars were spent in Sydney (Australia: Tourism and Travel, 2019; Australia: Tourism and Travel, 2019; Tourism Research Australia, 2019).

An analysis of the content of the sites of Ukrainian tour operators and airlines operating in the Ukrainian market (Bodotravel, Yana Luxury Travel, Voyage De Luxe Club, Mansana, Saga and other) was conducted, which allowed us to identify the main tourist destinations for tourists from Ukraine.

A variety of products that are in great demand are offered for Ukrainians by tour operators. The cost of such products is becoming more affordable for the domestic consumer and ranges from \$ 2,790 to \$ 6,500 and more. Group, corporate, individual and author's tours luxury category are organized with visits to natural, historical and cultural objects. The most popular trails include routes in which a beach holiday is combined with active and sightseeing tourism. Extreme recreational activities such as snorkeling on the Great Barrier Reef, a walk along the river of jumping crocodiles, hiking, diving with whales and others make it possible to experience new emotions and pleasure and at the same time explore the unique nature environment of Australia. Particularly attractive are safaris (more precisely, photo safari) in the Red Center, the tropical forest, the coral reef.

The classic destinations include excursions to wildlife parks, where you can feed the kangaroos and Tasmanian devils or enjoy the parade of penguins on Philippe island. Traditionally, tourists visit Tjapukai Aboriginal villages, feel the spirit of the gold miner's era at the Sovereign Hill open-air museum.

Professional tours are also popular among Ukrainians. For example, agrotours, in which professional training programs for agricultural specialists and farmers are combined with tourism programs. In addition to agricultural reviews of all the interesting segments of agriculture, adjacent industries, modern ecological farming enterprises, tourists have an opportunity to get acquainted with

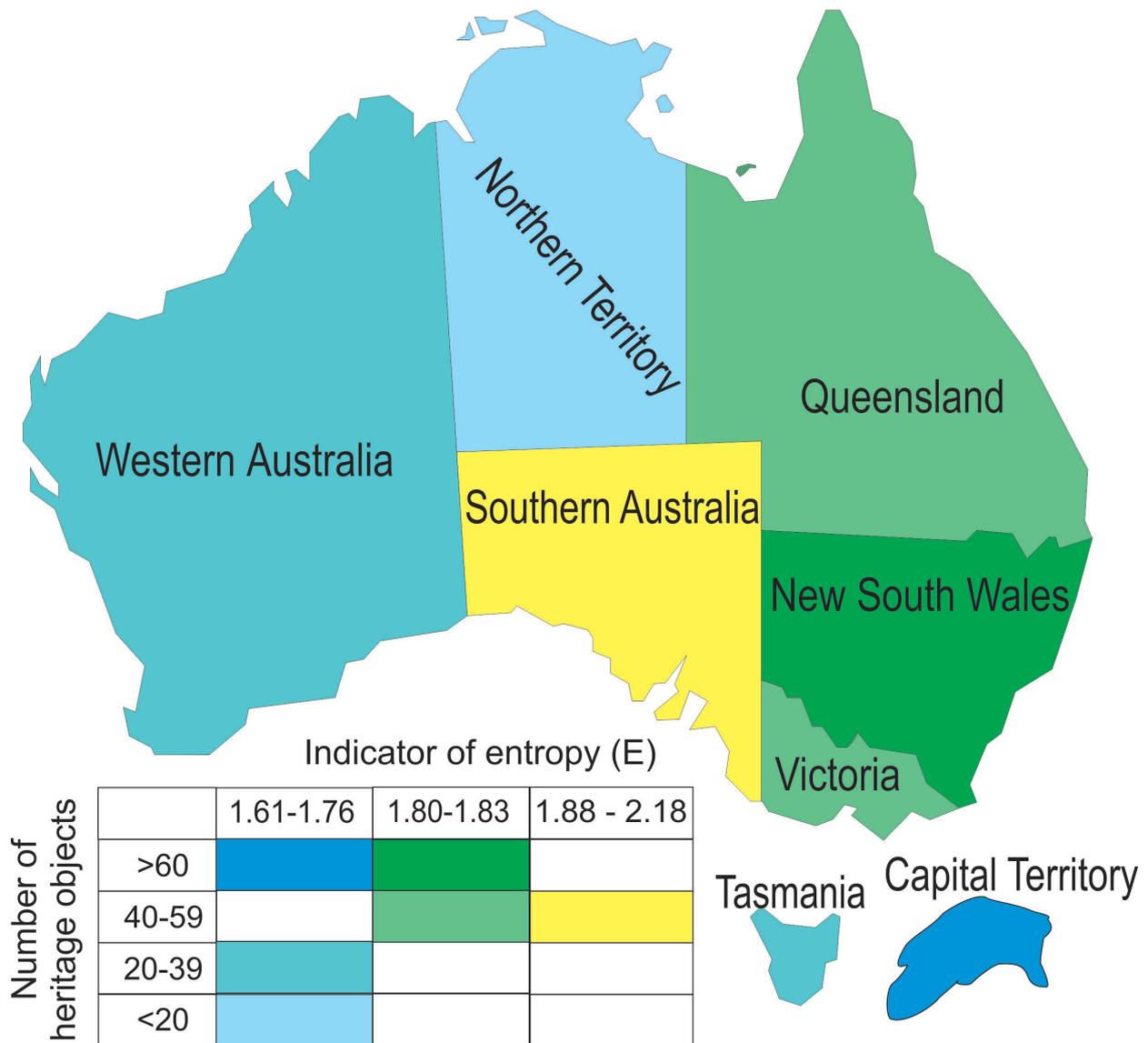


Fig. 5. Interrelation of number and variety of heritage objects. Source: the data retrieved from the official website of the Department of the Environment and Energy and author’s calculations

heritage objects. The most popular among them are the Winery, Manjie and Hunter Winery in South Wales, the Royal Canyon in the Red Center with its unique scenery, as well as the Australian city-building traditions of Sydney and Melbourne (the Queen Victoria Building, Sydney Opera, Sydney TV Tower and many others).

It should be noted that new historical and cultural objects are more and more included in Australian touristic routes, which have natural objects predominating. We paid the most attention to their assessment in our study. In our opinion, they can be a resource base for expanding the range of tours.

Conclusions. Australia’s tourist resources are diverse and unique, which creates a base for further development of the tourism industry. Australia is a new tourist destination for Ukrainian tourists, which has

significant prospects. The routes that are particularly popular are combined ones with sightseeing programs and beach holidays, combination of excursions and active tourism, professional training programs for agricultural workers combined with visiting heritage sites and beach holidays. New tourist routes are connected with the development of author’s trips with a unique program in accordance with the country’s characteristics and the wishes of tourists and wider use of the country’s historical and cultural heritage.

References

Australian Bureau of Statistics. – Retrieved from: <http://www.abs.gov.au>
 Australia’s National Landscapes Program. - Retrieved from: <http://www.environment.gov.au/system/files/>

- pages/f5e06426-5374-43cd-9873-fa321355ce9e/files/experience-development.pdf
- Australia: Tourism and Travel. - TripAdvisor Official [accessed 2019 Jun 20] Retrieved from: <http://www.tripadvisor.com/Tourism-g255055-Australia-Vacations.html> Australia Vacations, Tourism and Travel.
- Best in travel. Lonely Planet [accessed 2019 May 02] Retrieved from: <https://www.lonelyplanet.com/best-in-travel/regions>
- Department of the Environment and Energy. Australian Government. – Retrieved from: <http://www.environment.gov.au/heritage>.
- Ljubiceva O.O. 2002. Rynok turystychnyh poslug [Market of tourist services]. K.: Al'terpres (In Ukrainian).
- Parliament of Australia Офіційний сайт парламенту Австралії. – Retrieved from: <http://www.aph.gov.au>.
- Gavryljuk L. O., Gorbyk V. O. (ker.), Denysenko G. G., Kot S. I., Piskova E. M., Skrypnyk P. I., Fedorova L. D. 2011. Teoretychni ta naukovo-metodychni zasady pidgotovky statej pro pam'jatky istorii' do «Zvodu pam'jatok istorii' ta kul'tury Ukrai'ny» [Theoretical and methodological principles of preparation of articles on historical monuments to the «Collection of history and culture memorials of Ukraine»] Instytut istorii' Ukrai'ny NAN Ukrai'ny, Kyiv, p. 21–24. – Retrieved from: <http://history.org.ua/LiberUA/978-966-02-6003-0/4.pdf>. (In Ukrainian).
- Tourism 2020. The National Long-Term Tourism Strategy Retrieved from: <http://www.tourism.australia.com/content/dam/assets/document/1/6/w/u/3/2002107.pdf>
- Tourism Australia Corporate Website. – Retrieved from: <http://www.tourism.australia.com>.
- Tourism Research Australia. - Retrieved from: <http://www.tra.gov.au>.
- Zakon Ukrai'ny «Pro ohoronu kul'turnoi' spadshhyny» [Law of Ukraine «On the Protection of the Cultural Heritage»]. – Retrieved from: <https://zakon.rada.gov.ua/laws/show/1805-14>(In Ukrainian).