

The Baltic Sea Project within the UNESCO ASP network

Baltic Sea WebQuiz 2021: questions and answers

14-16 years old students: 8 questions, 45 minutes



REPUBLIC OF ESTONIA
MINISTRY OF EDUCATION
AND RESEARCH



The Baltic Sea Project

1. Non-indigenous species are one of the most severe human-induced pressures in the Baltic Sea region. Invasive species are usually brought here with ballast water of the commercial ships that come from the other parts of the world. The invasive mud crab, *Rhithropanopeus harrisii* is more harmful than many other recent newcomers. Why does the species have stronger effects than many other recent alien species?

- a) they brought a stronger predation impact in the food web
- b) they have become the most numerous species in the area
- c) many native species started to feed on the crabs



Photo: Robert Aguilar, CC BY 2.0, [link](#)

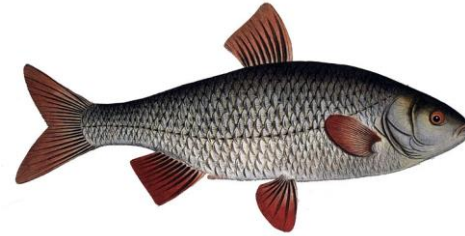
Resource: <https://www.natureasia.com/en/research/highlight/12462>

2. As a result of climate change, summers around the Baltic Sea will probably get hotter and drier, whereas precipitation will increase, especially during wintertime. Increased amount of freshwater runoff will reduce salinity. Which of the following fish species prefer more saline areas and therefore may be negatively affected?

a) Atlantic cod (*Gadus morhua*)



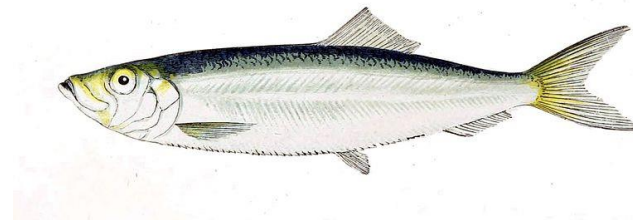
b) Common roach (*Rutilus rutilus*)



c) European perch (*Perca fluviatilis*)



d) European sprat (*Sprattus sprattus*)



Photos: public domain

Resource: <https://www.syke.fi/download/noname/%7B45C3C2FD-9301-43D7-803F-90460B436AE5%7D/99119> <https://www.utu.fi/en/news/news/baltic-sea-nutrients-flow-into-the-north-sea>

3. Many bird species migrate long distances, but some migrate only short distances and some do not migrate at all. This is because migration is difficult and poses a lethal threat to most juvenile birds. Which of these is a major threat for long-distance migrators?

- a) High doses of UV light because of hotter climate
- b) High bird ringing activity in Western Europe
- c) Arriving too early at breeding grounds because of warm temperatures**

Resource: <http://www.bitsofscience.org/climate-change-migratory-birds-7729/>

4. During 2021 a migration crisis has unfolded in Belarus–European Union border. Many migrants have been stranded at the EU-Belarus border in extremely harsh conditions, with limited access to drinking water and food, medical assistance, sanitation facilities and shelter for several weeks. Which is the main country of origin for migrants at the border of Belarus?

a) Syria



b) Afghanistan



c) Iraq



d) Belarus



Photos: flags, public domain

Resource: <https://www.theguardian.com/world/2021/aug/10/latvia-and-lithuania-act-to-counter-migrants-crossing-belarus-border>

5. Just a hundred years ago wooded meadows were one of the most common habitat types everywhere around the Baltic Sea and by now they have almost vanished. Loss of the habitats, together with climate change, pesticides and invasive alien species, lead to the decline in the number of pollinators. In some parts of the world, such as China, people are already pollinating the plants by hand since there's not enough insects, most importantly bees. Look at the flowers and their reproductive organs below and choose flower(s) that need to be pollinated by an animal or an insect.



photo: [Anthere](#)

a) anthers are outside flower, loose on long filaments



photo: [F.j. Kearney](#)

b) anthers inside flower, stiff and firmly attached



photo: [Mark Johnstone](#)

c) stigma inside flower, sticky

Resources: <https://www.bbc.co.uk/bitesize/guides/zs7thyc/revision/2>; <https://ajakirimaja.ee/en/aveliina-helm-urban-nature%e2%80%95for-whom-and-why/>; <https://www.europarl.europa.eu/news/en/headlines/society/20191129STO67758/what-s-behind-the-decline-in-bees-and-other-pollinators-infographic>

6. During migration the Arctic bird species pass, rest and feed along extensive undeveloped coastal areas in the Baltic Sea – grasslands or bare, small islands in the archipelagos. Many of these crucial stopover sites along the coast will be under threat of disappearing due to rising sea levels. Which of these Baltic birding hotspots is a flat peninsula?

a) Hiiumaa

b) Ventspils

c) Närsholmen

d) Utö

Other places listed are not peninsula!

Resources: [https://balticwin NJgs.org/onewebmedia/Baltic%20Birding%207.pdf](https://balticwin.NJgs.org/onewebmedia/Baltic%20Birding%207.pdf)

http://awsassets.panda.org/downloads/arctic_birds_factsheet.pdf

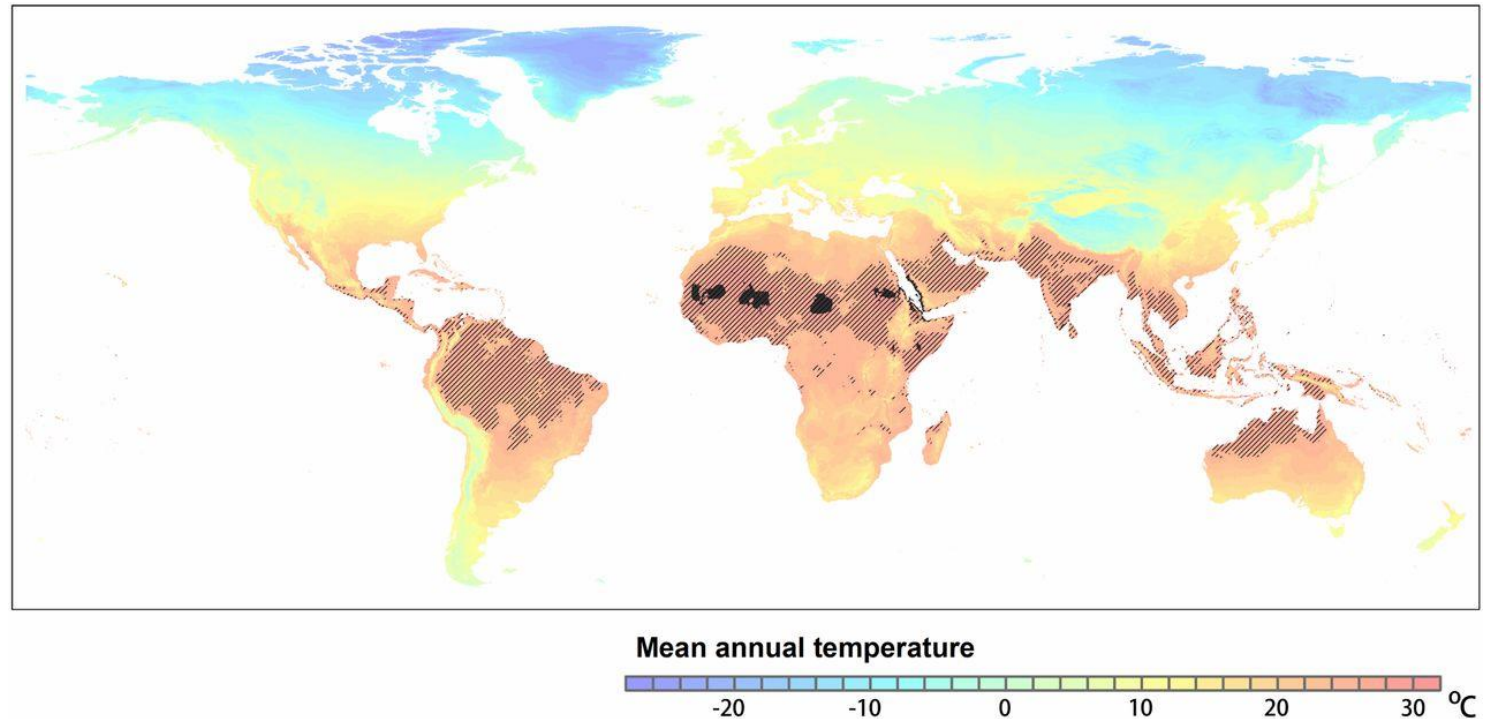
7. Global citizens can positively influence the state of the Baltic Sea through their own actions. What everyday choices can you use to prevent eutrophication of the Baltic Sea?

- a) Eat more locally grown wheat and meat. This way you can decrease the amount of phosphorus in the Baltic Sea and stop the eutrophication of our coastal waters.
- b) Eat more locally grown berries and vegetables. This way you can increase the amount of phosphorus in the Baltic Sea and stop the eutrophication of our coastal waters.
- c) Eat more local Baltic herring. This way you can decrease the amount of phosphorus in the Baltic Sea and stop the eutrophication of our coastal waters.**

Resource: <https://estonianworld.com/knowledge/estonian-scientist-eating-small-fish-benefits-the-baltic-sea/>

8. The human climate niche are areas on Earth where humans have historically lived due to favorable climate conditions related to temperature and precipitation. In addition to humans, this climate niche is also where the production of crops and livestock typically takes place. On the graph you can see that In the current climate, mean annual temperature above 29°C are restricted to the small dark areas in the Sahara region. In 2070, such conditions are projected to occur throughout the shaded area. People living in these areas will have to leave their homes and move to places that are more suitable for living. What is the optimal mean annual temperature of the human climate niche?

- a) 17°C to 23°C
- b) 11 °C to 15 °C**
- c) 24°C to 28°C



Resource and graph: <https://www.pnas.org/content/117/21/11350>

Baltic Sea WebQuiz 2021

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