

INSTRUCTIONAL SUPPORT

Slides for
Half-Earth
Map Design
Challenge



half the earth for the rest of life



“...the only solution to the sixth extinction is to increase the area of inviolable natural reserves to half the surface of Earth or greater.”

“... species is the unit of biodiversity that can and must be studied most thoroughly with the practical aim of saving the whole.”

— E.O. WILSON

Why Half?



SURVIVING
SPECIES

85%

HALF-EARTH DAY EDUCATOR AMBASSADOR WORKSHOP

Let's Break the Ice

This room is a map of the US.

Go to the first place that you
lived in the US.

Think of your favorite place in
the US. Go there.





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– E.O. WILSON



IUCN — INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE

A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values.



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IUCN PROTECTED AREA PARAMETERS

Valuing and conserving biodiversity

Governing nature's use and sharing its benefits equitably

Deploying nature-based solutions to global challenges

Respecting people



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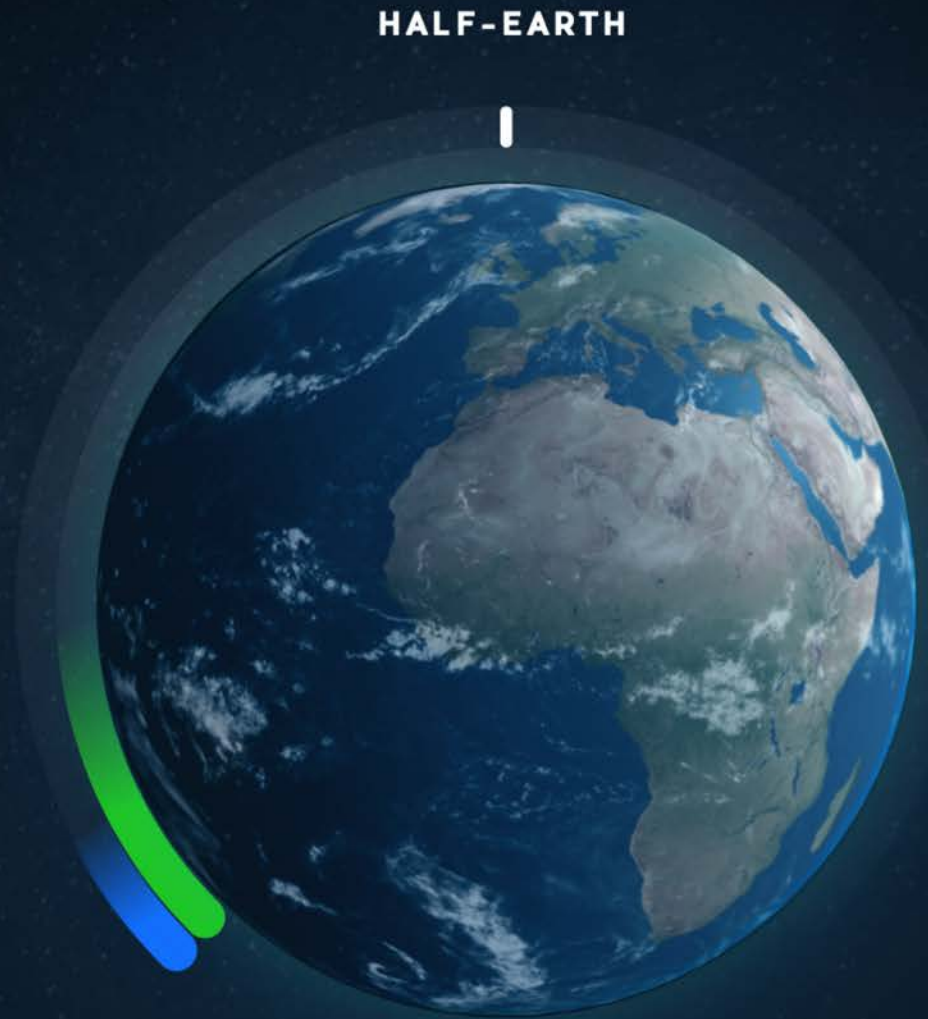
PROTECTED AREAS INCLUDE

- Nature Reserves
- Wilderness Areas
- National Parks
- Natural Monument
- Habitat or Species Management Area
- Protected Landscape or Seascape
- Protected area with sustainable use of natural resources

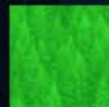


Monitoring Progress Toward the Goal of Half-Earth

How are we doing in our progress towards Half-Earth? All together there are currently 245,449 designated protected areas, which collectively protect a little over 20 million km² of land and 26 million km² of marine waters. According to the World Database on Protected Areas, a joint project of the United Nations Environmental Program and the International Union for Conservation of Nature, in January



7.47%
CURRENT MARINE
PROTECTED AREAS



14.9%
CURRENT LAND
PROTECTED AREAS



PROTECTED AREAS

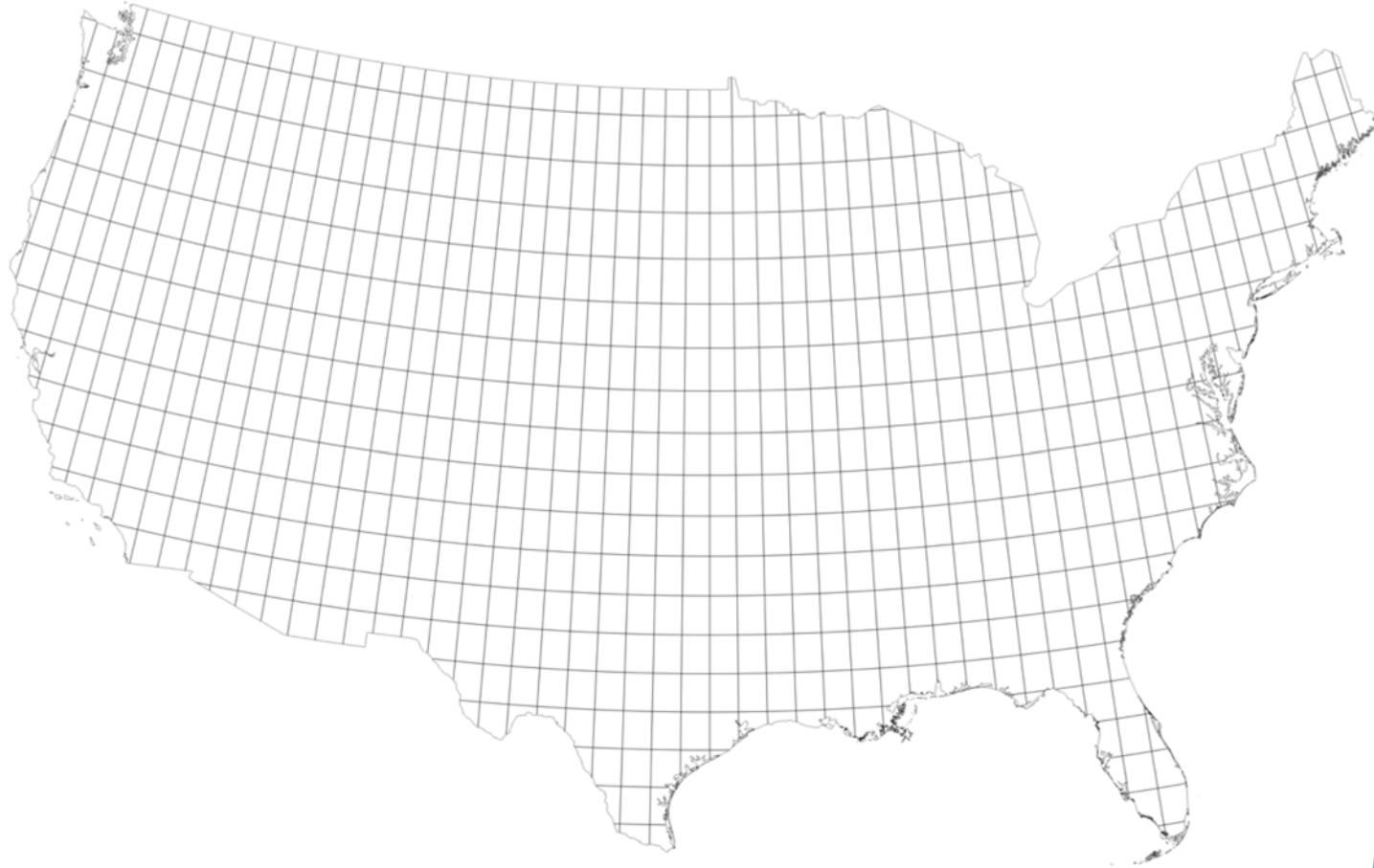


Source: Protected Areas Database





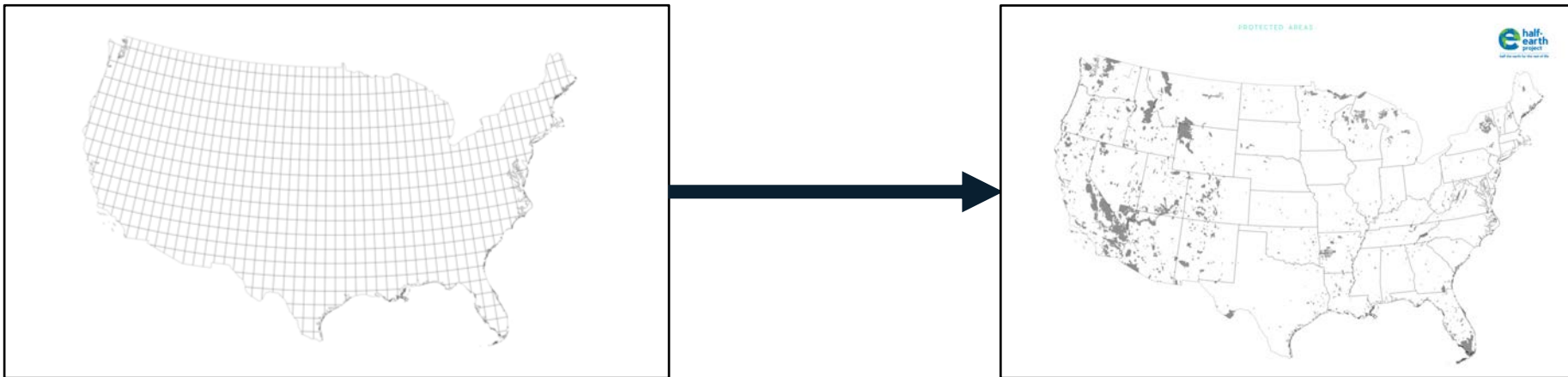
GRID MAP



WHAT PROPORTION OF US PROTECTED?

Part 1 Directions

- Place your grid map over your protected areas map.
- Use a marker to dot the grid cells that are protected.



Time - 10 minutes



WHAT PROPORTION OF US PROTECTED?

- Count your marked grid cells
- The total number of grid cells is 738
- Calculate the % of our lands currently protected

Share out!
The person in your group
with the shortest hair!

Time - 2 minutes



COLLATE AND SHARE RESULTS

Did teams all get the same estimate of US protected lands?

Why or why not?



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MAKING CONSERVATION DECISIONS



Turn and Talk

- Choose **ONE CELL** you would like to add into “protected land” on
- Explain to your elbow partner **WHY** you want to protect this area.

Time - 10 minutes

MAKING CONSERVATION DECISIONS



SHARE OUT!
Person who had the
most recent birthday.

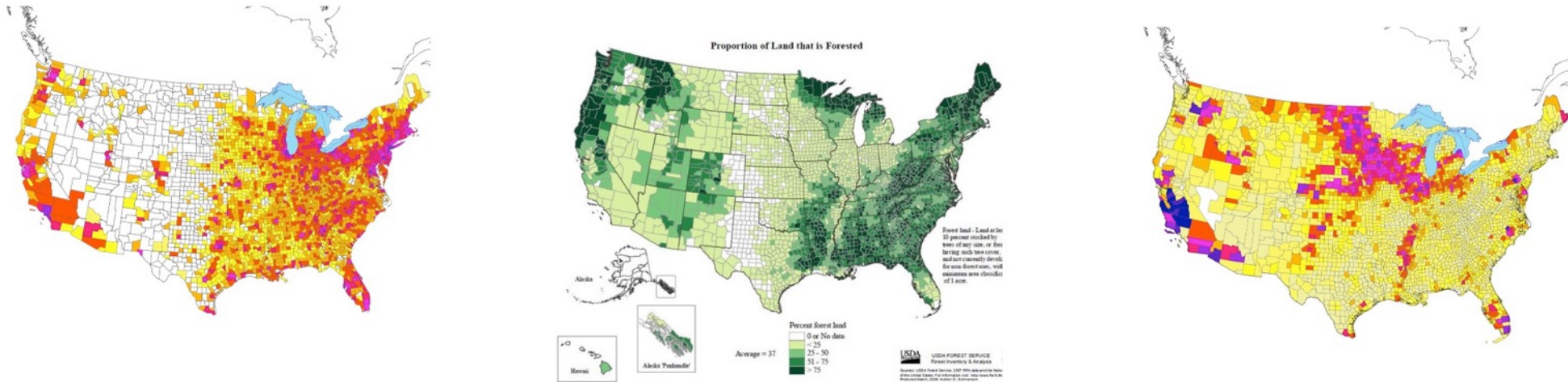


 **half-
earth
project**

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THINK HALF-EARTH – ACT LOCAL



DESIGN CHALLENGE

Work as a team to place half of US land into protected status.

DESIGN CONSTRAINTS

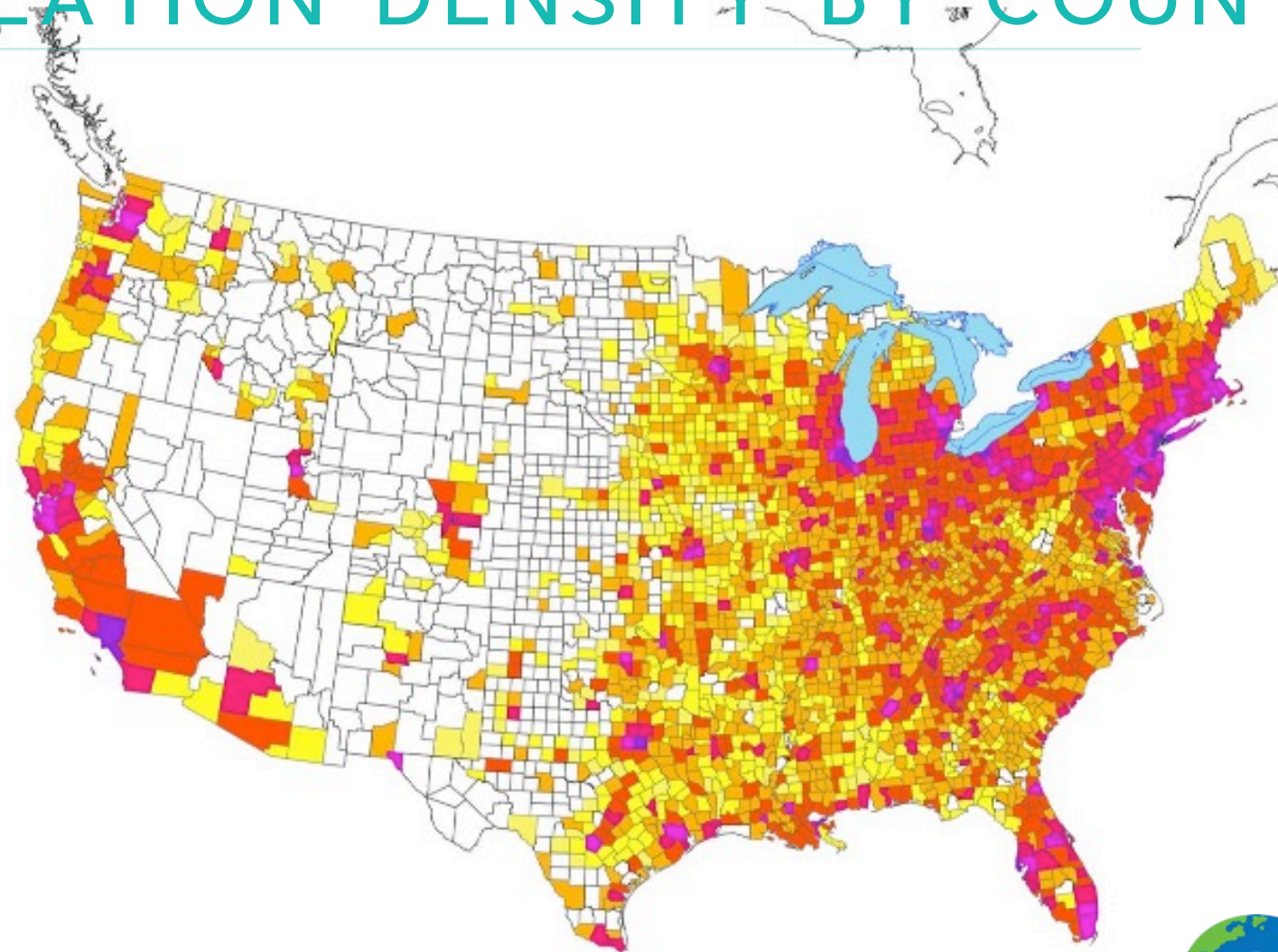
Maximize biodiversity and sustainability.

Look at your maps, and think about how they address biodiversity and human needs.

Place a dot on each cell you want to protect.

You have 15 minutes starting now.

POPULATION DENSITY BY COUNTY

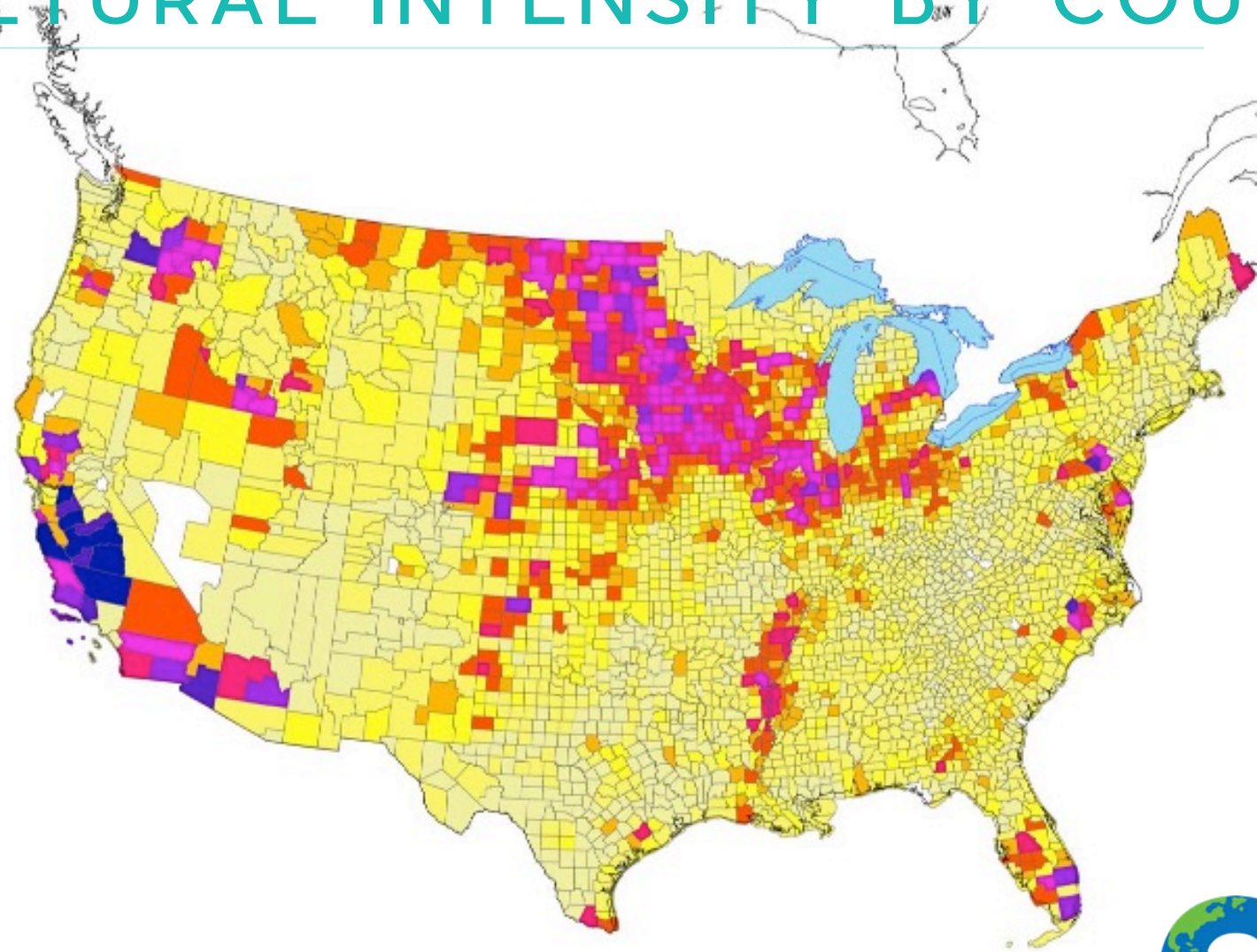


**Scale of heatmap:
lightest to darkest red**

- 0-10 per square mile
- 10-100
- 100-500
- 500-1000
- 1000-68,000

Source: 2000 US Census

AGRICULTURAL INTENSITY BY COUNTY

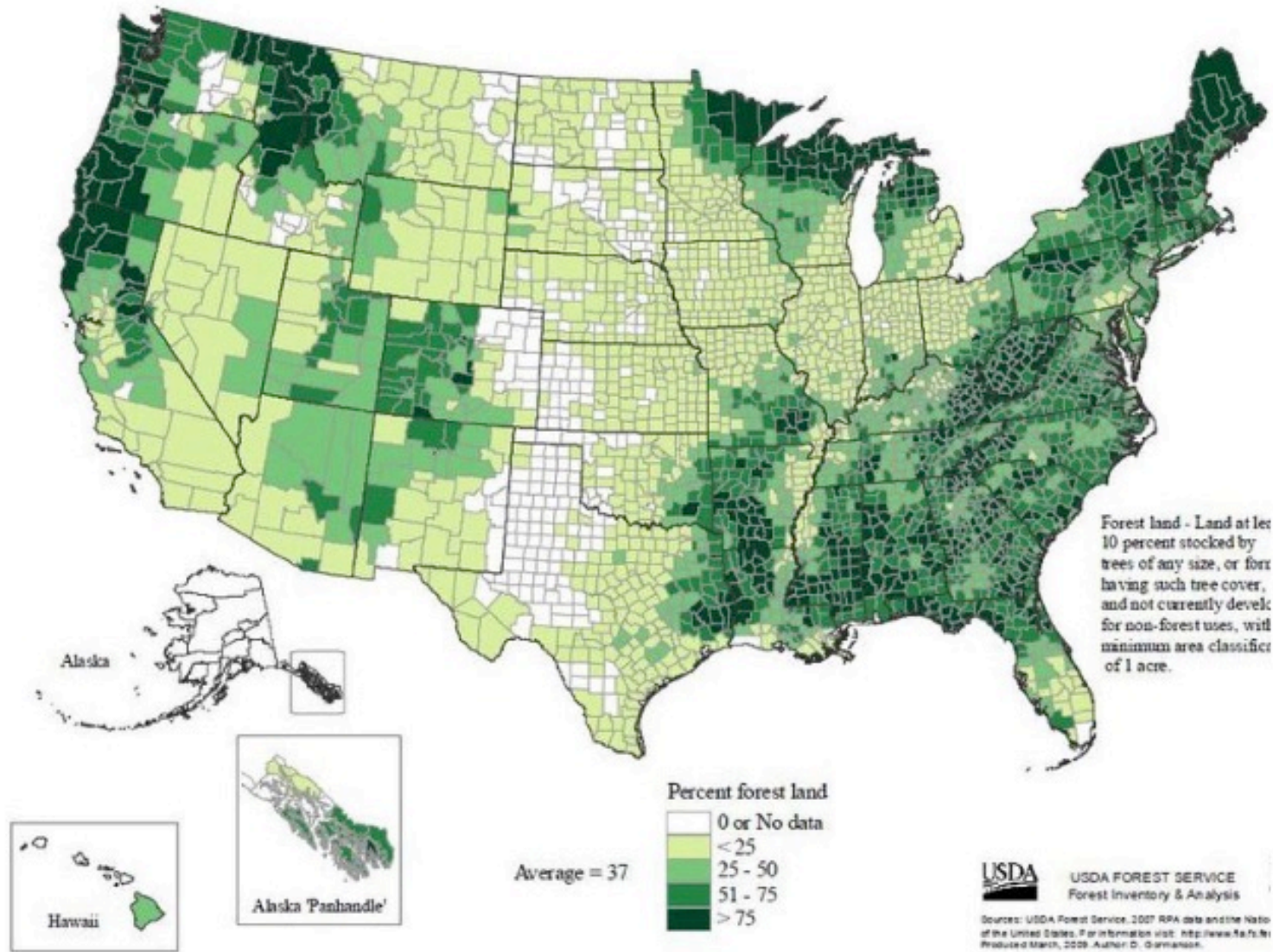


Avg. value of agricultural products sold in 2012

- Less than \$10,000/farm
- \$10,000 - 99,000
- \$100,000 - 249,999
- \$250,000 - 499,999
- \$500,000 - 749,999
- \$750,000 +



PROPORTION OF LAND THAT IS FORESTED



PEER COLLABORATION

Trade maps with another group.

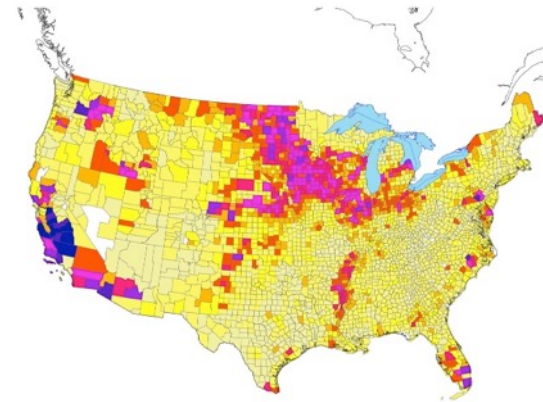
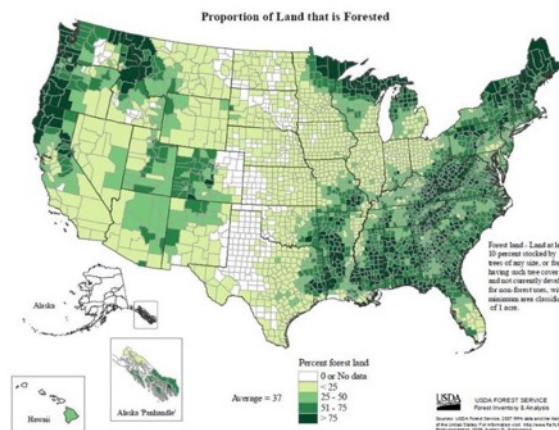
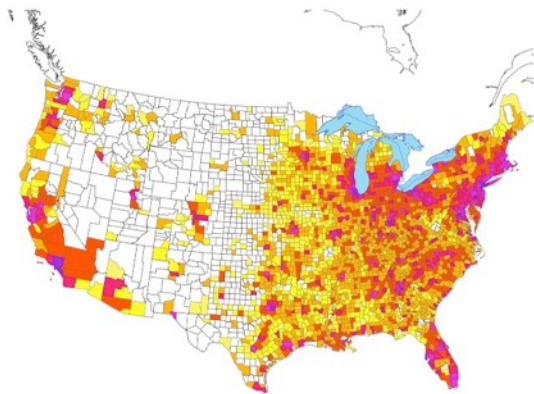




PEER COLLABORATION

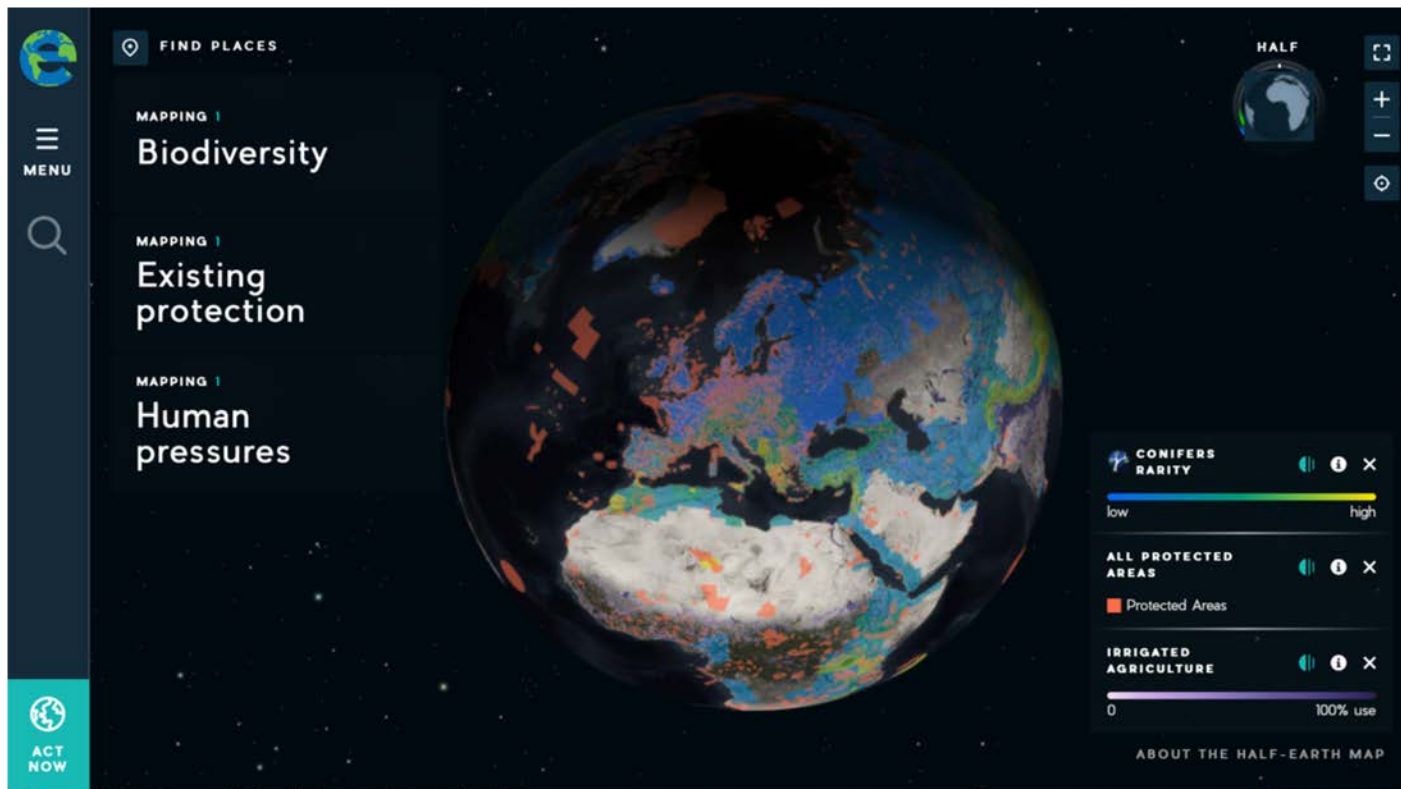
Analyze the newly protected map from another group.

- Pick a cell where you think both biodiversity and sustainability were optimized.
- Pick a cell where you feel the costs out-weighed the benefits.



DIGITAL RESOURCES THAT FOCUS ON BIODIVERSITY

The Half-Earth Map



Map species

Views species range map, inventory, and occurrence data



Species by location

Select a location, filter by distance or group, and view a list of species along with source data

DEVELOPMENT TEAM

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