LAND COVER INVESTIGATION AREA
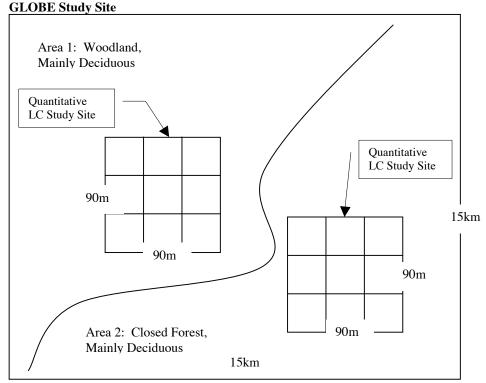## GLOBE SAMPLE STUDENT ASSESSMENT TOOL - QUALITATIVE – HIGH SCHOOL

(Given data from the GLOBE data archives)

GLOBE Study Site

Area 1: Woodland,
Mainly Deciduous

Quantitative
LC Study Site

90m

90m

Quantitative
LC Study Site

15km

90m

90m

Area 2: Closed Forest,
Mainly Deciduous

15km

Quantitative Biometry Measurements for Areas 1 and 2

Area 1

Ground Cover

100%

70%

50%

30%

0%   0%

G   B   —

Canopy Cover

100%

60%

50%   40%

0%

+   —

Area 2

Ground Cover

100%

60%

50%

20%   20%

0%

G — B — —

Canopy Cover

100%   90%
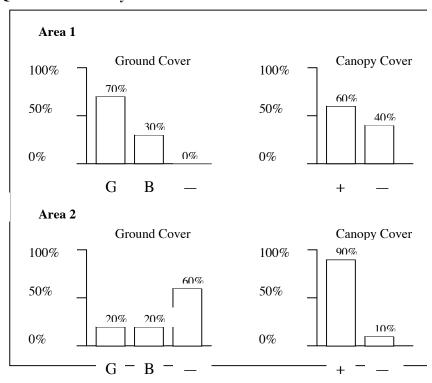
50%

10%

0%

+   —   —

(Present problem requiring use of GLOBE data archives)

The students at a GLOBE school in Oregon are involved in a restoration project in which they are in charge of planting a rare native flower somewhere in the vicinity of their school. The students need to be specific about where to place the flower, since it needs plenty of light and soil moisture. Three groups of students have been asked to present their recommendations for a suitable place in the GLOBE Study Site.

The map shows two areas in the school's GLOBE Study Site the students will analyze to select the best location for the rare native flower. The two areas in the GLOBE Study Site have a different

MUC code. In addition to the map, students have been given graphs of some of the biometry measurements taken in the quantitative land cover sample sites in each area. Your group has been asked to use these quantitative land cover data to figure out the area where the rare flower is more likely to thrive. Your group will need to write up your recommendation for the Native Plant Restoration Committee.

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1) **(Plan Investigations: Pose relevant questions)** Look at the map and the quantitative biometry land cover data provided. Think of a question related to each measurement that you think would be important in helping to decide where to replant the rare flower. A sample question might be "What do the ground cover data suggest about the soil moisture?"

Question related to Ground Cover:

Question related to Canopy Cover:

2) **(Analyze and Compare GLOBE Data: Identify data components)** When analyzing graphs of GLOBE data, it is important to think about what the data in the graphs are telling us. Answer the following questions using the data from the graphs:

Which area has the most green ground cover?

Which area has the most canopy cover?

3) **(Interpret GLOBE Data: Explain data & relationships)** Thinking a little more about the data, answer these questions:

Which area is likely to have the most sunlight hitting the ground?

Which area is likely to have the greatest soil moisture?

(Analyze and Compare GLOBE Data: Identify similarities & differences)

4) One of the students in your investigation group, Martha, suggests that is it possible to understand what each area looks like without actually being in the area.

If you were standing in Area 1 describe in a few sentences what you might see.

If you were standing in Area 2 describe in a few sentences what you might see.

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5) **(Take GLOBE Measurements: Use quality assurance procedures)** Two of the groups in your school have recorded different ground cover measurements for Area 2. Describe two procedures they could use to check their use of the correct measurement protocols:

1)

2)

6) **(Interpret GLOBE Data: Create multiple formats to represent data)** Using the information in the map and graphs, indicate the first two digits of the MUC code for each area.

Area 1 MUC:

Area 2 MUC:

7) **(Communicate: Compose reports to explain or persuade)** Based on your analyses of the data, in which area would you recommend replanting the rare native flower? Write a brief report (1 page) that a) summarizes your findings and b) explains why the recommended area has the more favorable conditions for replanting the flower. Be sure to support your conclusions with data you have analyzed and suggest other data that might be helpful for a better description of each of the three areas.