

10. Draw a line connecting the scientific finding with the new forest harvest best practice it helped to inform.

Scientific Finding	New Forest Harvest Best Practice
Spiders, plants, insects and birds have all shown more rapid recovery when standing trees (i.e., retention) are left after harvest.	Create small soil mounds on some sites to help trees grow faster and outcompete other plants.
Creating small piles of soil (i.e., mounds) helps trees grow faster and access the nutrients they need.	Leave patches of standing trees in harvest blocks to help provide seeds for natural regeneration.
Soil gets packed down by heavy machines and logging trucks when soils are wet and vulnerable.	Leave different amounts of live trees (i.e., retention) in different harvested areas.
Harvested areas need seeds from the trees left nearby to help them regrow. If you leave patches of trees inside harvested areas more trees can regrow naturally.	Forest harvest and transporting logs on heavy trucks is not permitted during spring thaw when soils are wet and soil compaction is greatest.
No single amount of live trees is most beneficial for plants, insects, birds and wildlife. Rather, a range of retention levels (i.e., variability) provides the most benefit.	Companies leave standing trees after harvest to increase stand complexity, and some companies leave up to 10% of these trees after harvest.

PARTNERS



Social and Environmental Contexts of Science: Case Study of the EMEND Research Project near Peace River

Developed by Fuse Consulting Ltd.

YOUR TOUR OF EMEND



WHAT TO LOOK FOR

- FORESTRY
- GRAVEL
- EDUCATION
- OIL & GAS
- RESEARCH
- ROAD
- WEATHER
- WATERSHED
- WILDFIRE

Guiding Question #1: Studying a natural landscape – what impacts do you observe?

1. List 5 natural and human impacts you see or hear in the forest in Video 1:
Use the icons on the front page of this workbook to help you find the impacts.

- 1.
- 2.
- 3.
- 4.
- 5.

2. Choose one impact and describe how it might affect the organisms that live in the forest.

Guiding Question #2: How do scientists conduct landscape scale studies?

3. What other things could researchers at EMEND be studying?

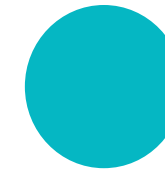
4. If you were a scientist what would you like to study? Would you study that in a lab or in the forest?

5. What would be the biggest challenge in studying what you chose?

6. What innovative technology or creative technique could you use to overcome the challenge you identified (or a different challenge)?

Guiding Question #3: How are scientific findings about natural disturbance helping transform forestry practices?

7. What shape was the forest fire impact?



8. Draw the outline and details of the harvest block you flew over.
Label things like clumped retention and dispersed retention.

9. How long ago do you think the harvest block you visited was harvested?

Read to Understand

The science at EMEND is directly linked to the activities and questions that industry and government have. Planning research projects at EMEND involves attending to the practical and ethical implications of science and technology for the sustainability of local and global communities. Some key findings from the research project that are helping people work together to maintain the health of the boreal forest are:

- By leaving some living trees standing after harvesting (called retention), we can provide key habitat for a range of birds, insects and plants and make harvesting more similar to natural disturbances like fire.
- Variation is critical for biodiversity. By creating harvest blocks with a range of shapes, sizes, and levels of retention, we can better conserve the birds, insects and plants that live in this landscape.
- By creating small 'mounds' of soil in the forest understory, we can increase the rate at which trees grow and establish on harvested sites.

DID YOU KNOW?

EMEND stands for *Ecosystem-based Management Emulating Natural Disturbance*