

## Lecture 12 – Forests

1. Forest Management Practices In Canada
2. Forest Fires
3. Forests and Endangered Species
4. Forestry and Climate Change

---

---

---

---

---

---

---

## Key Concepts

- Who manages Canada's forests
- Rates of forest conversions
- Harvesting systems, the impacts of clear-cutting, reforestation; trends
- Trends in use of biocides
- Forest fires and the impacts of the mountain pine beetle
- Forests and species at risk
- Climate Change and the role of Forests

---

---

---

---

---

---

---

## 1. Forest Management Practices In Canada

- Provinces responsible for:
- Federal and territories:
- Private landowners:




---

---

---

---

---

---

---

## Rate of Conversion of Forests

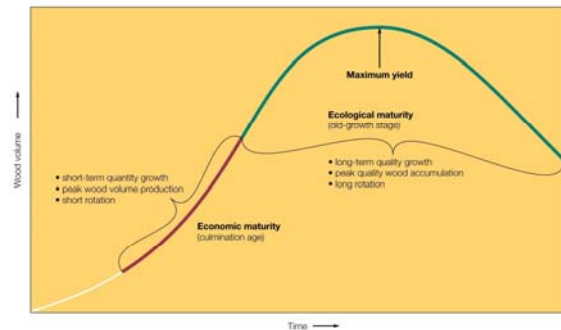


Figure 9-5  
Timber volume production

---

---

---

---

---

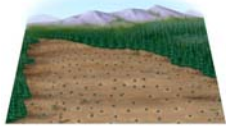
---

---

---

## Harvesting Systems

### Clear-cutting



### Seed Tree Cutting



### Selective Cutting



### Shelterwood Cutting




---

---

---

---

---

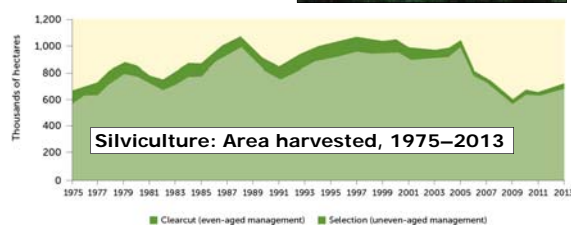
---

---

---

## Clear-Cutting

- Size of cuts vary:




---

---

---

---

---

---

---

---




---

---

---

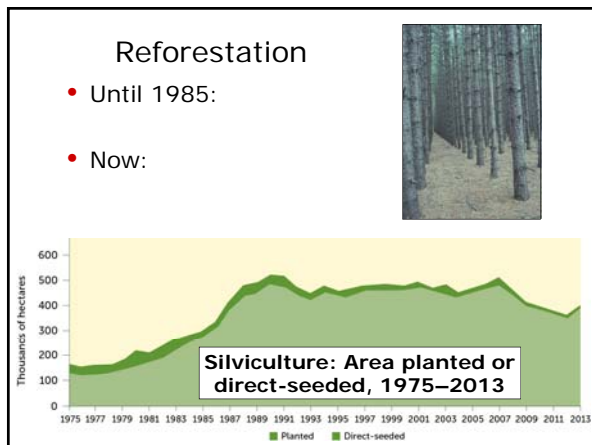
---

---

---

---

---




---

---

---

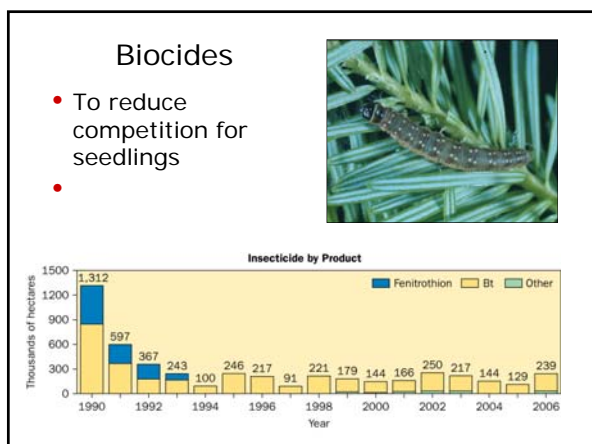
---

---

---

---

---




---

---

---

---

---

---

---

---

## 2. Forest Fires

- Suppression in fire-dominated systems has resulted in:




---

---

---

---

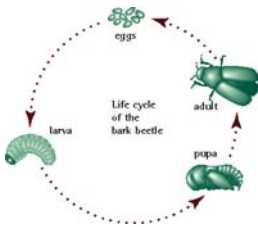
---

---

---

---

## Mountain Pine Beetles in BC




---

---

---

---

---

---

---

---

## Mountain Pine Beetles in BC (2)




---

---

---

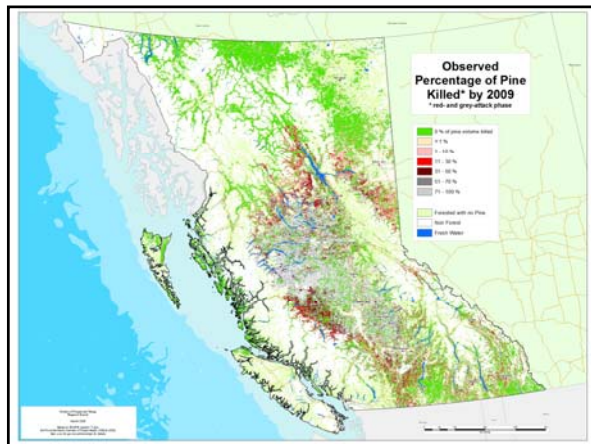
---

---

---

---

---




---

---

---

---

---

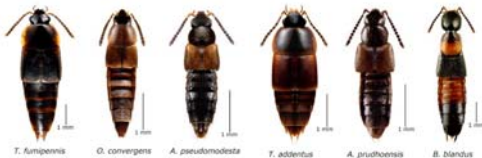
---

---

---

### 3. Forests and Endangered Species

- Of species considered at risk in Canada:




---

---

---

---

---

---

---

---

### The Spotted Owl

- 
- 2003:
- 2007:
- 2011:




---

---

---

---

---

---

---

---






---

---

---

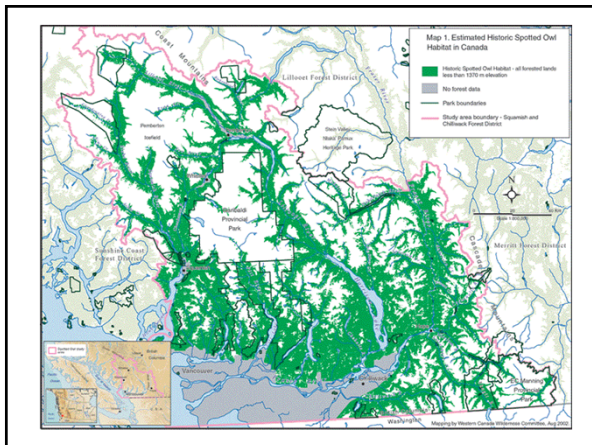
---

---

---

---

---




---

---

---

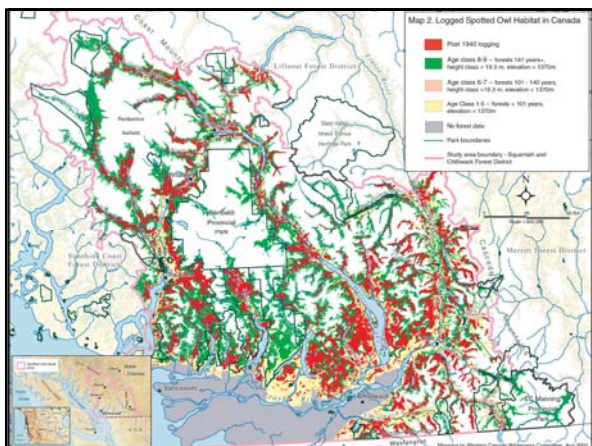
---

---

---

---

---




---

---

---

---

---

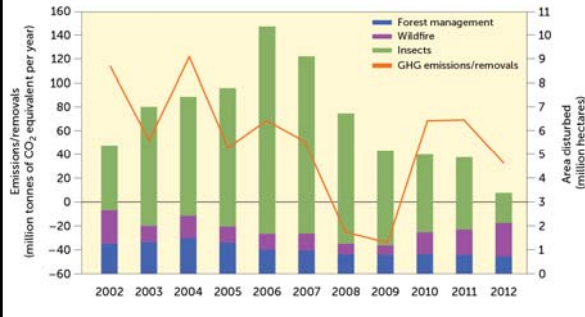
---

---

---

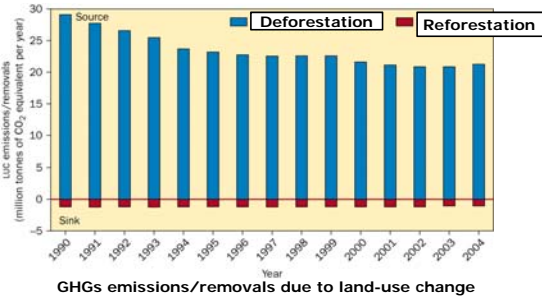
#### 4. Forestry and Climate Change

GHG emissions/removals in Canada's managed forests



#### Forestry and Climate Change

- 1990:
- 2009:



#### Conclusion

- Canada's forests are now changing mostly as a result of human management, rather because of natural processes
- The techniques used to preserve the timber value of these forests, and the methods to harvest them have profound environmental impacts
- They have also several unintended impacts such as increasing the potential for wildfires, and endangering rare species

**TO DO!**

1. Next lecture: Minerals and Energy
2. Listen to Podcasts: Minerals and Energy  
– Units 1 to 3
3. Tutorials **this week:** Debates week #1;  
bring the “Debate Evaluation Form”

---

---

---

---

---

---

---