

Reclaimed Wood in Deer Lake, Newfoundland: A Feasibility Study

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Study Rationale

- Increasing overarching challenges of sustainability: climate change, anthropogenic impacts have created interest in bioeconomy
- Current EU and CA definition of bioeconomy
- “The production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy”
- Canadian forestry sector shows promise in supporting a shift towards a bioeconomy
- Underwater reclaimed wood harvest aka “salvage logging” is a niche market that could promote this shift and help create a more sustainable forestry sector

Objectives

- To provide an explanation and history of the concept of bioeconomy
- To examine the practice and merits of underwater salvage logging
- To evaluate the economic, social and environmental implications of such salvage logging practices
- To assess the potential of salvage logging operations in Deer Lake Newfoundland and Labrador

Methods

- Review secondary literature to identify case studies of underwater salvage logging operations
- Evaluate case study information using a three-part analytical framework focused on the economic, social, and environmental impacts of such operations
- Analysis of recent Deer Lake Feasibility study

Brief Underwater Logging

- Underwater Salvage logging interests generally began around the 1950s and 1960s followed the use of energy dams and man-made reservoirs
- Logging used to be done by hand, now mostly with diving gear and ROVs
- Deer Lake Logging began in 1920s and would continue until the 1980s
- Pulp logs were directed from the Humber Canal (northern end of deer lake) to the mouth of the river in corner brook
- Over that time, many logs would sink to the bottom, preserved by



Figure 1. Pulp Logs Power house in Deer Lake 1960s

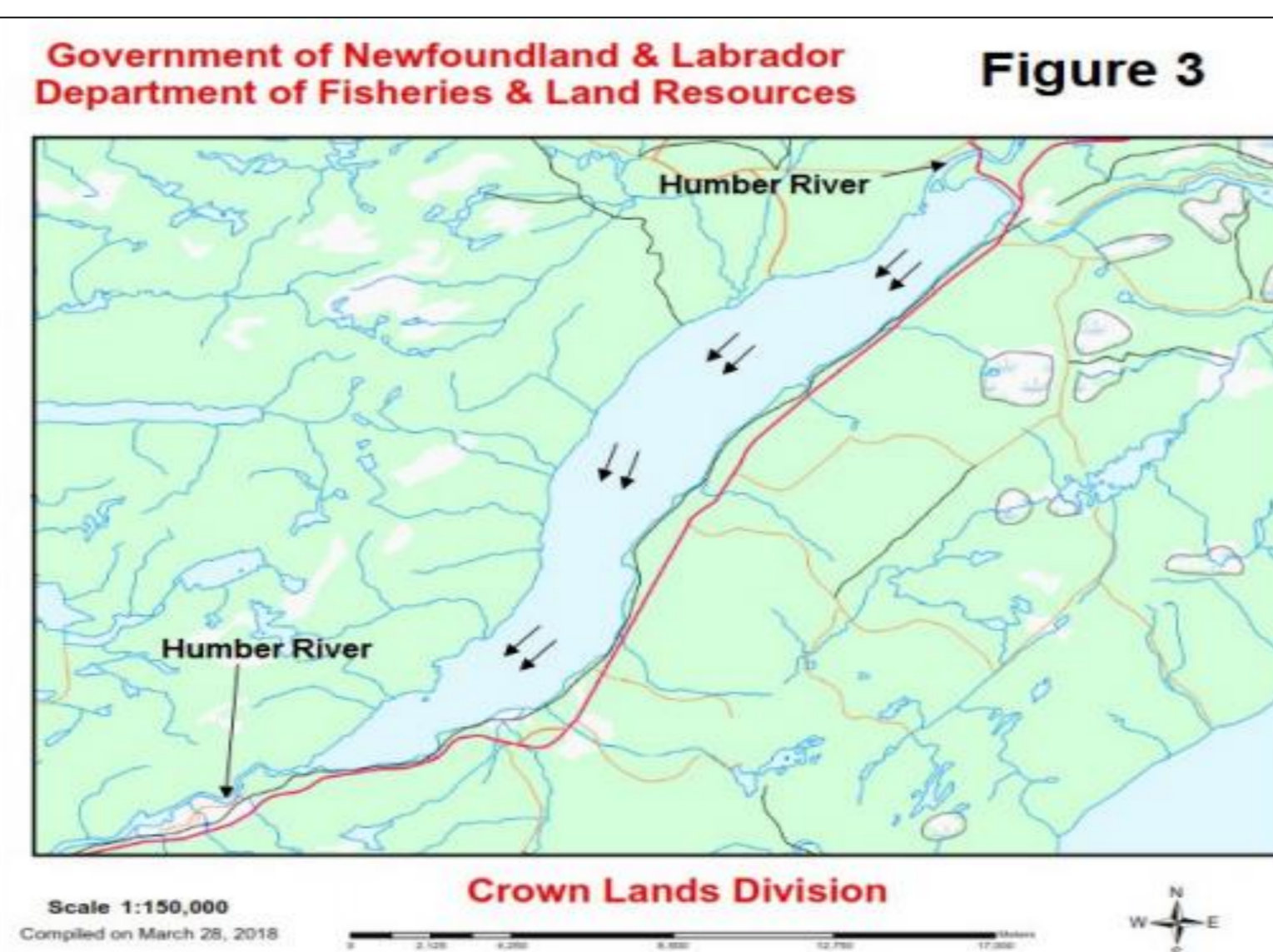


Figure 2. Deer Lake and surrounding area showing water inflows and outflow

Results

Economic

- estimated the value of submerged forests globally is \$50 billion, roughly 45,000 different reservoirs around the world
- High economic costs of underwater logging can act as barrier (dangerous labor, expensive equipment, processing, transportation)
- But, Deer Lake has **high economic feasibility** given previous pulp logging operation, accessibility, calmer waters, demand increases to US and CA wood markets (figure 3) and improving remote sensing (figure 2)

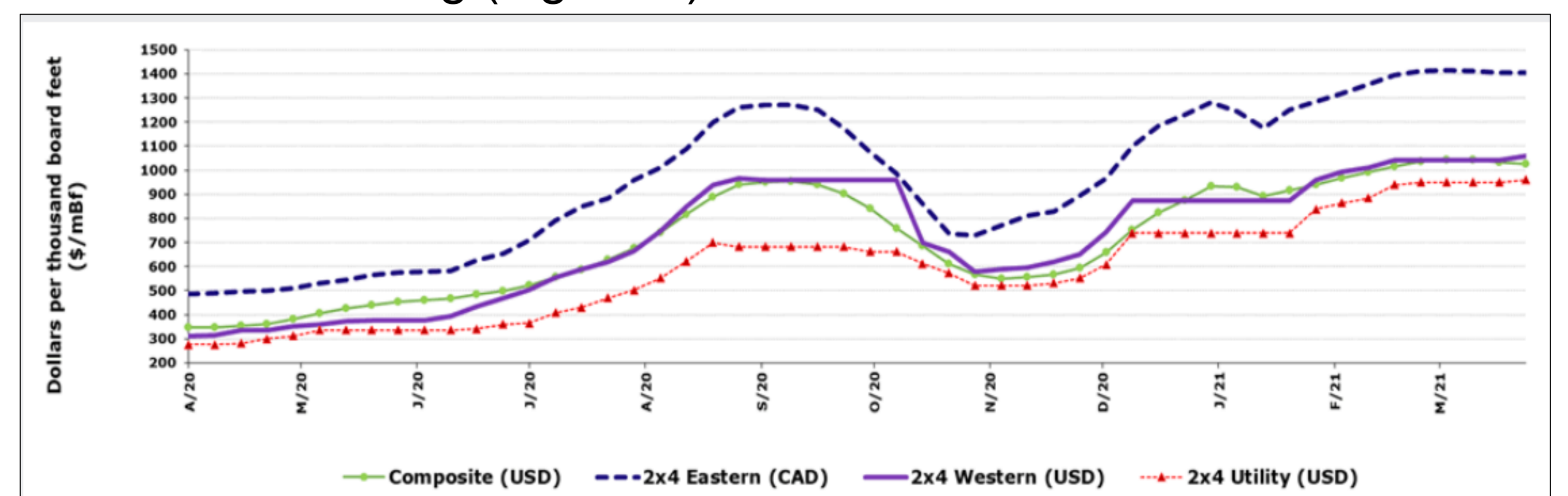


Figure 3. Lumber Prices North America



Figure 4. Remote Operated Vehicle (ROV) Sawfish From Triton Company

Environmental

- Removal of Large Woody Debris (LWD) from submerged logs can cause nutrient deprivation, increase predation through coverage removal and increase the growth of algae by allowing deeper penetration of sunlight
- Risk to Deer Lake's scheduled salmon river between the Upper Humber and the Lower Humber.
- Environmental feasibility questionable.** More studies dedicated to remote sensing of log locations followed by impact assessment of potential aquatic impacts needed.

Social

- example: Lake Volta Case study findings
- Harvest can increase access to waterways and job opportunities through logging, processing and transportation
- But can cause public backlash without proper consultation
- However, **Deer lake Social feasibility questionable**, demand for public surveys and accurate definitions of salvage logging needed

Study Implications

- Deer Lake shows High economic opportunity for underwater logging
- New Deer Lake Feasibility study that explores environmental

Works Cited

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