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# Pacific Northwest Waterborne Commerce: Analysis of Up-River and Down-River Movements on the Columbia/Snake River System

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## Objectives

- Describe and detail the commodity movements along Columbia-Snake River for the period of 1995-2003
- Identify the general trends and seasonality of commodity movements, both overall and for individual dams
- Draw inferences and evaluate likely future trends



Courtesy U.S. Army Corp of Engineers

## Relevant Policy Debates

- **Snake / Columbia River Dredging**
- **River Drawdown: Improve Native Salmon Survival Rates**
- **Lower Columbia River Channel Deepening Project**
- **Loss of Container Services at Port of Portland**

# Study Area

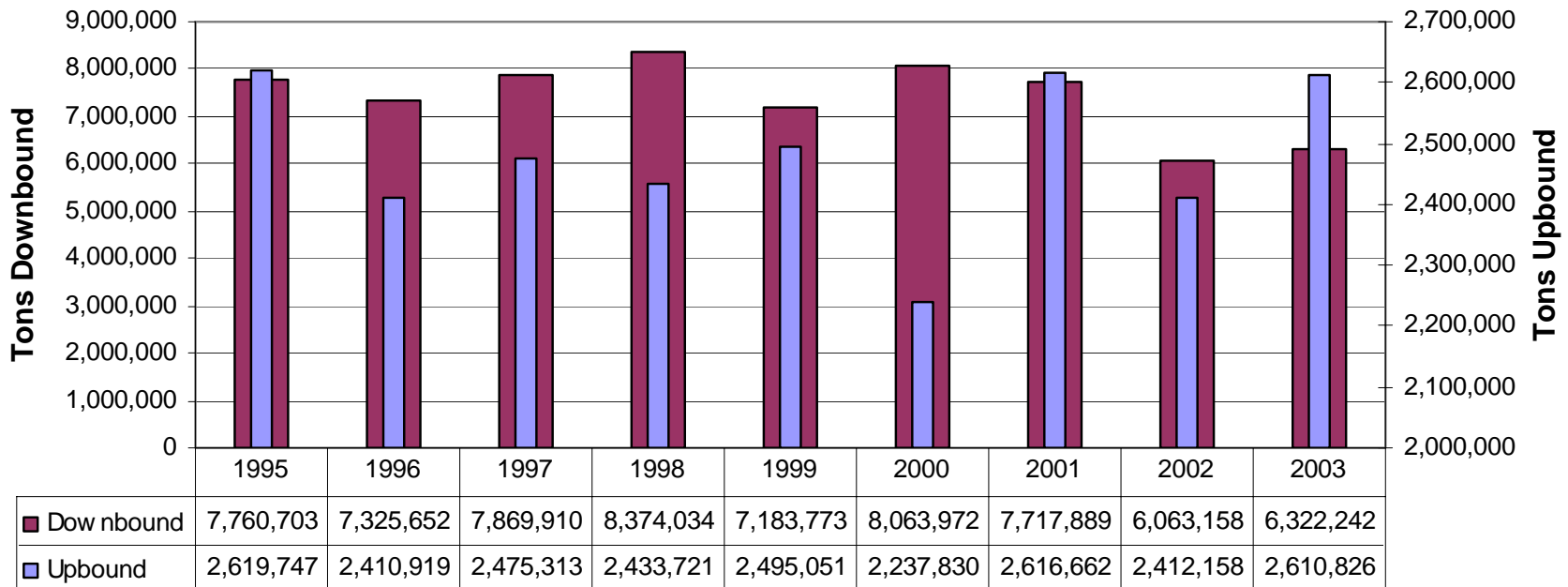


## Data Source

- **Corps of Engineers: Lock Performance Management System**
- **Eight Columbia / Snake River Dams (Lower Granite, Little Goose, Lower Monumental, Ice Harbor, McNary, John Day, The Dalles, Bonneville)**
- **Years 1995 – 2003**
- **40 Commodity Types (NAICS)**
- **Overall (up and down river) and pool specific**

# Total Up / Down River Movements

Annual Total Downbound and Upbound Tonnage of All Commodities in 1995-2003



Year

# Primary Commodities

## Down River

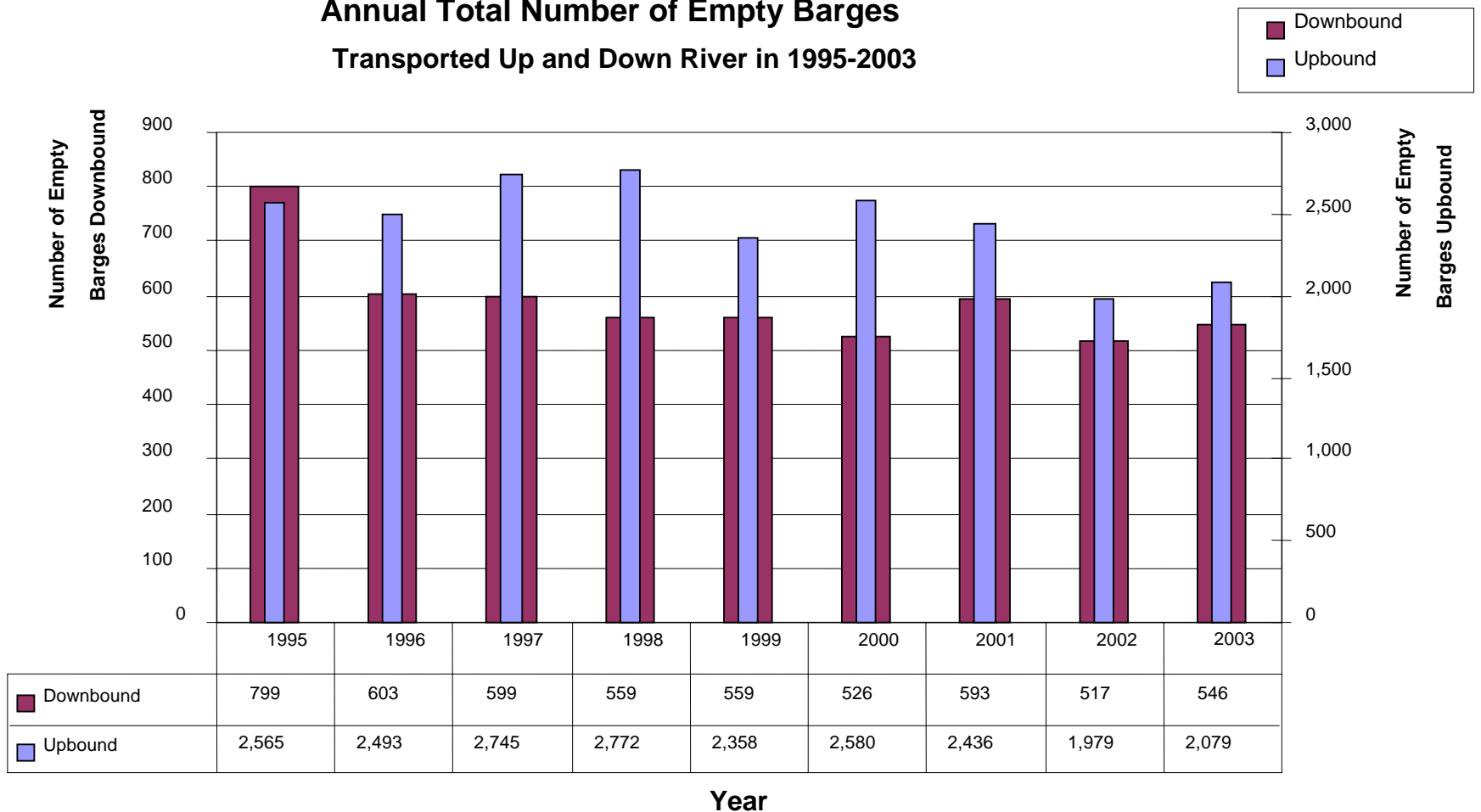
- Wheat
- Forest products, lumber, logs, woodchips
- Sand, gravel, stone; limestone flux and calcareous stone; phosphate rock
- Rye, barley, rice, sorghum and oats
- Paper and allied products
- Animal feed, grain mill products, flour and other processed grain
- Vegetable products

## Up River

- Gasoline, jet fuel, kerosene
- Distillate, residual and other fuel oils; lubricating oils and greases
- Waste material; garbage, landfill, sewage sludge and waste water
- Fertilizer / Chemicals

# Empty Barge Movements

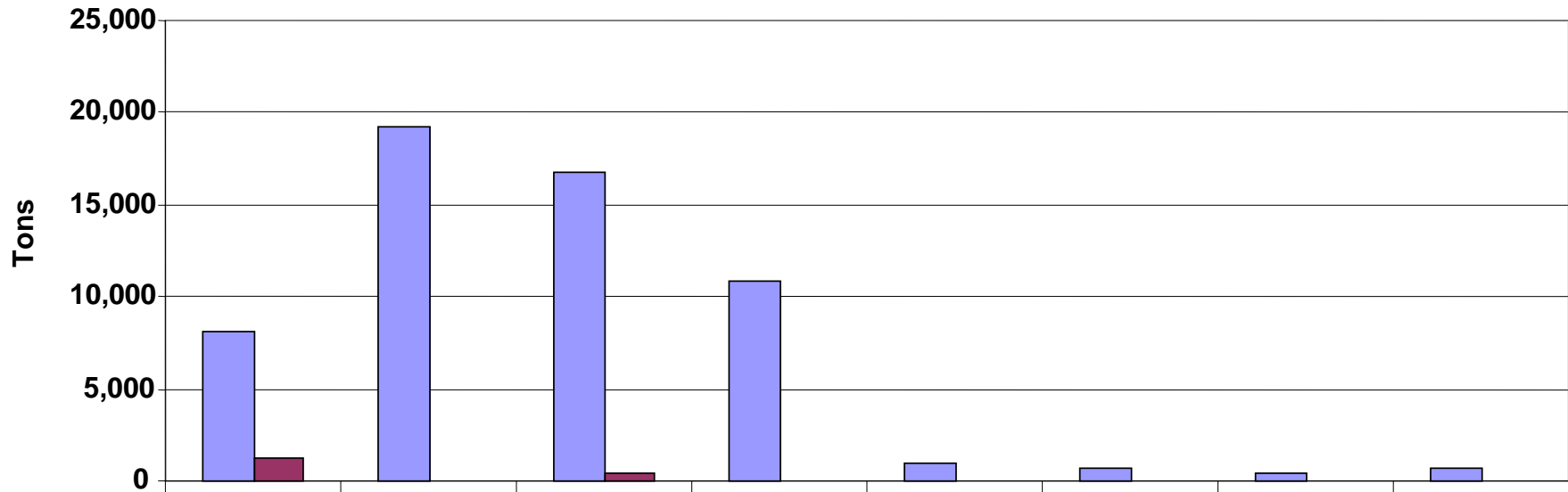
Annual Total Number of Empty Barges  
Transported Up and Down River in 1995-2003



# Petroleum Products

Average Tonnage of Petroleum and Petroleum Products  
Through Columbia/Snake River Dams, 1995-2003

Upbound  
Downbound



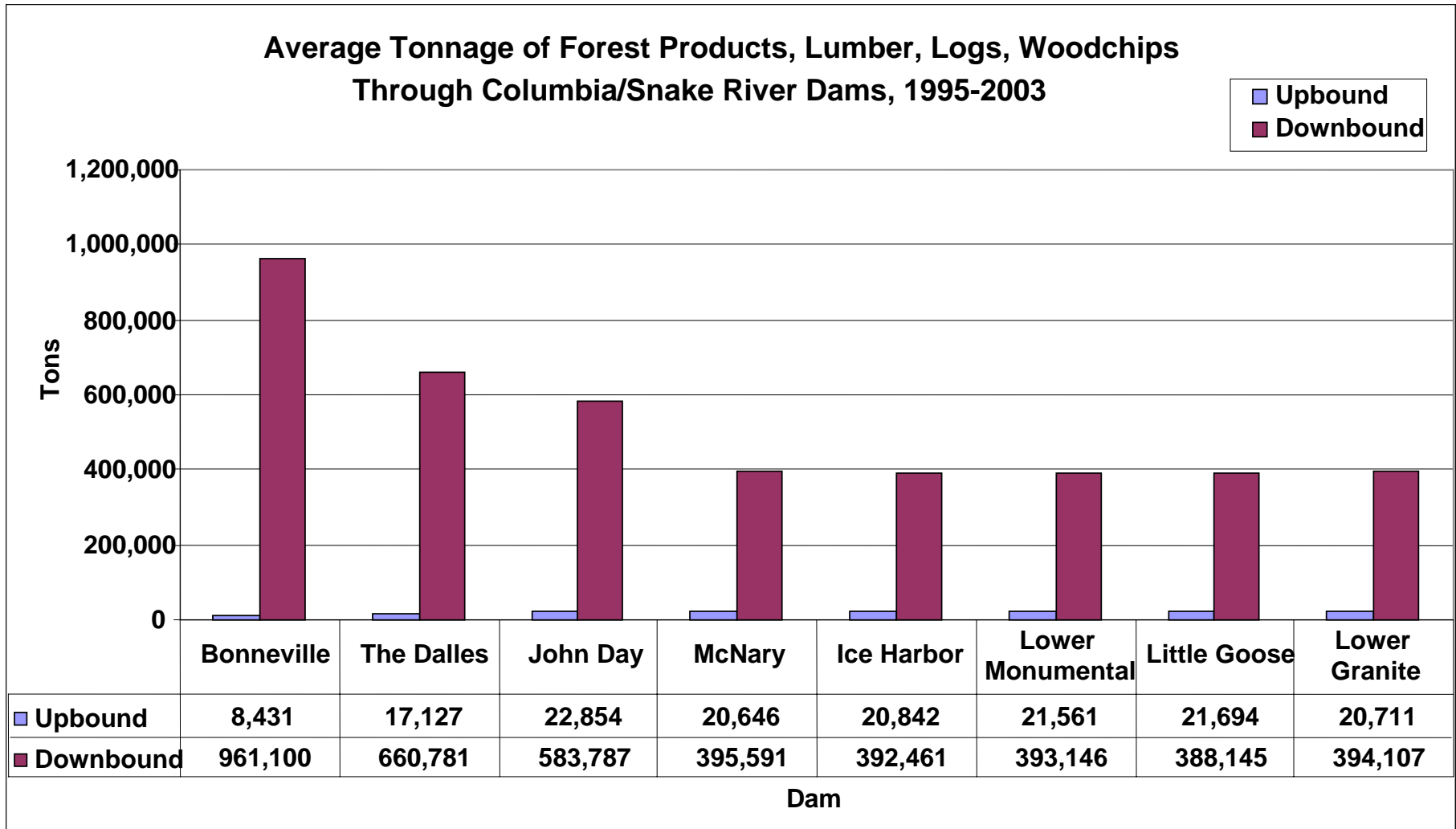
Upbound	8,118	19,166	16,694	10,846	912	665	348	665
Downbound	1,172	22	400	0	0	0	0	0

Dam

# Forest Products

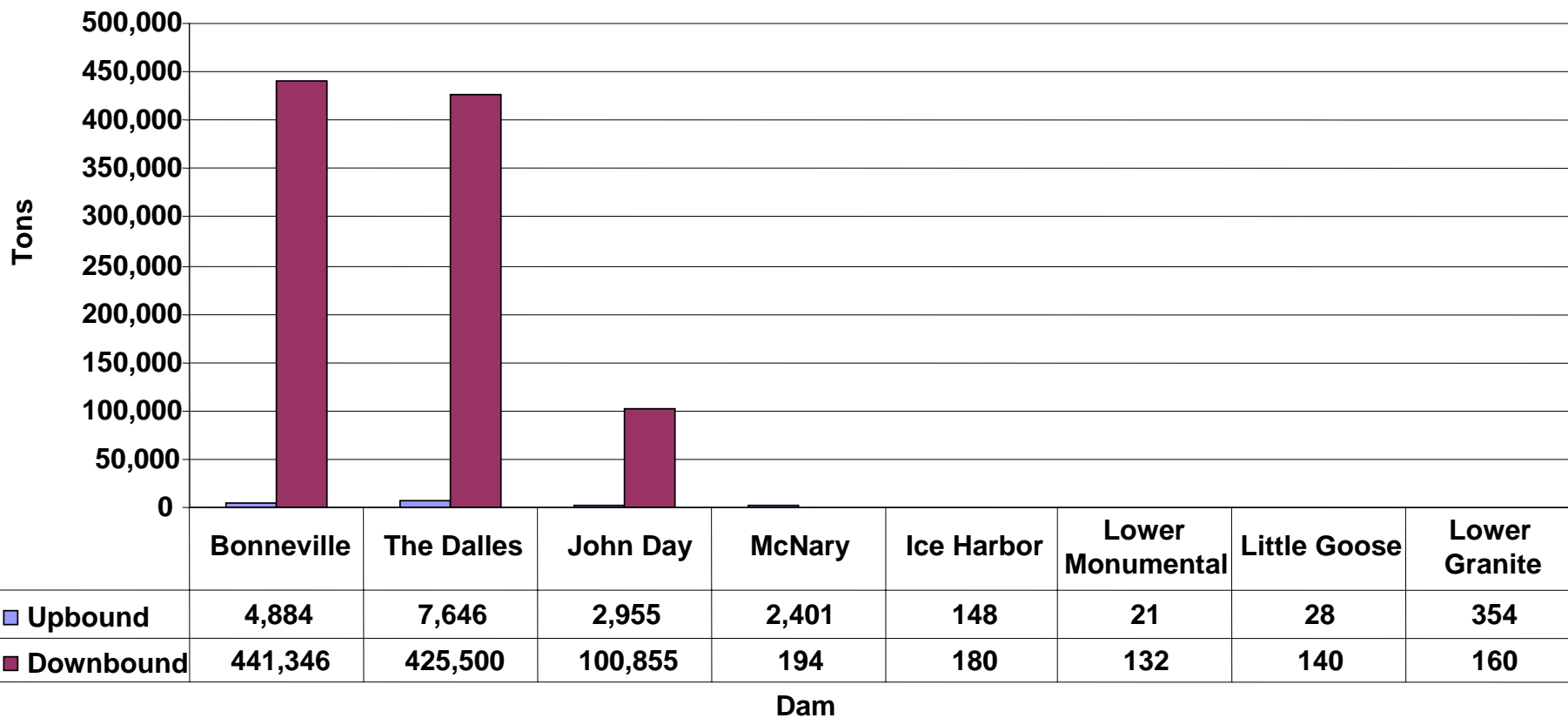
Average Tonnage of Forest Products, Lumber, Logs, Woodchips  
Through Columbia/Snake River Dams, 1995-2003

Upbound  
Downbound



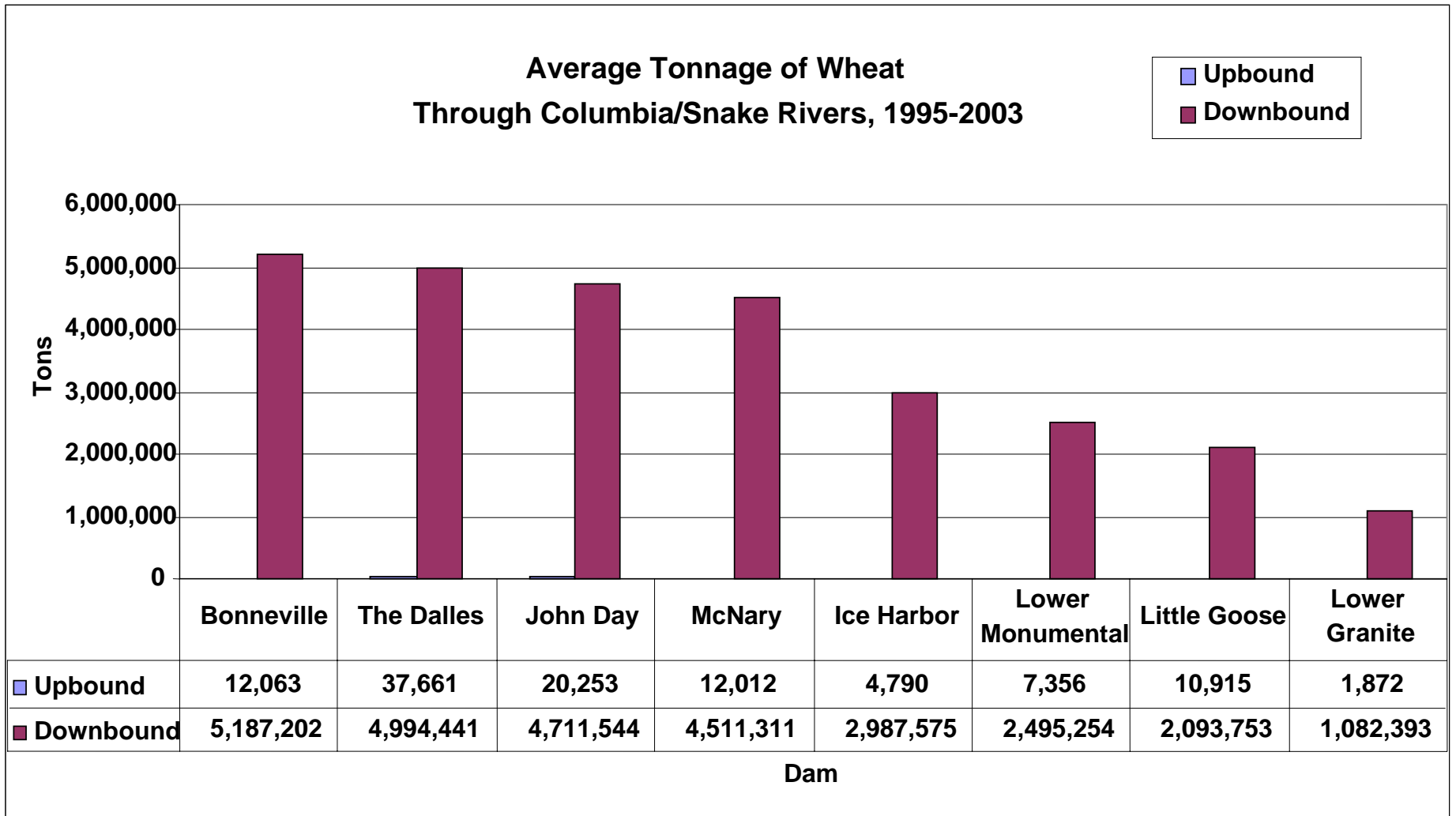
# Sand, Gravel, Limestone

Average Tonnage of Sand, Gravel, Stone, Limestone Flux and Calcareous Stone Through Columbia/Snake River Dams, 1995-2003



# Wheat

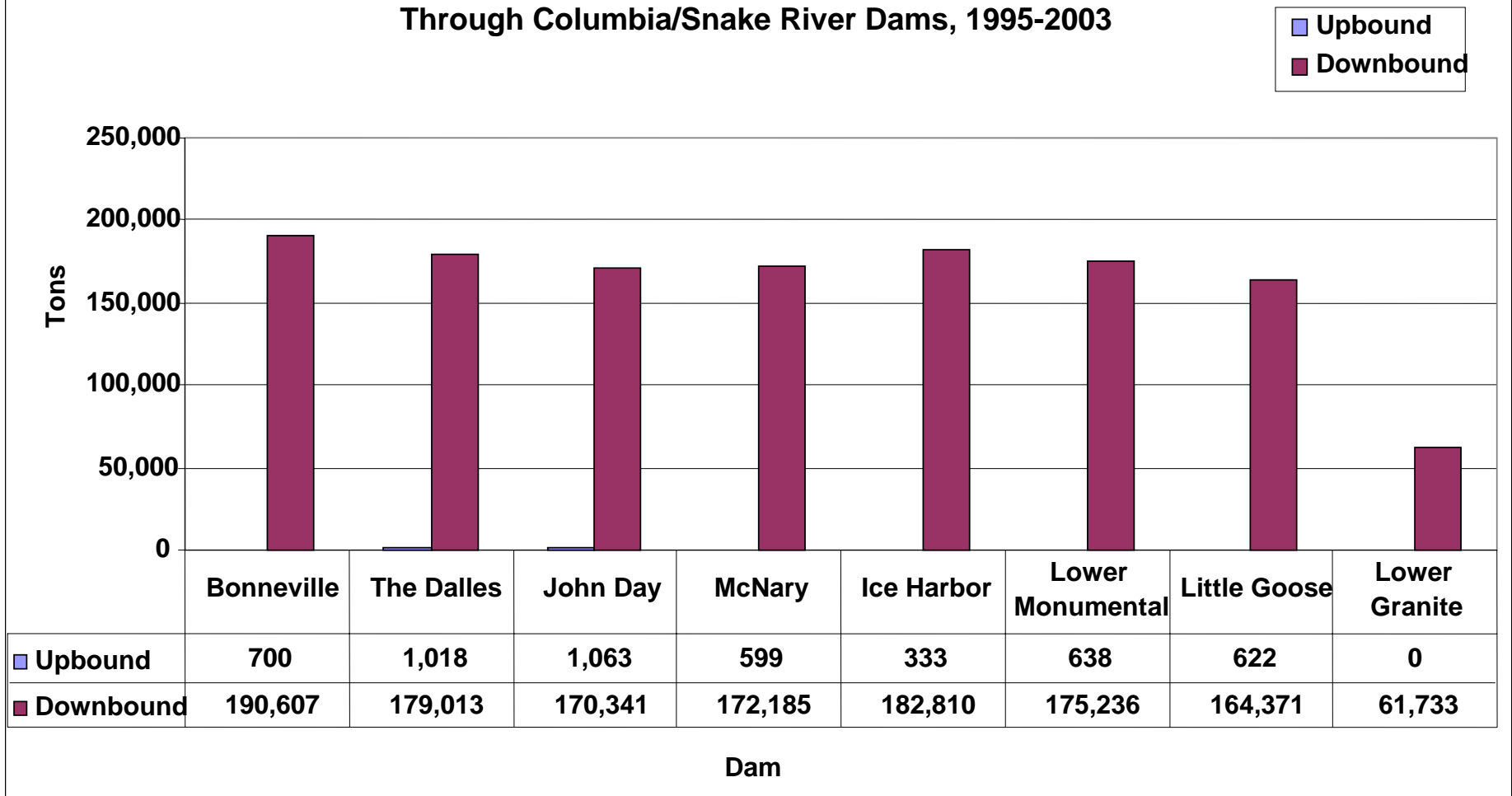
Average Tonnage of Wheat  
 Through Columbia/Snake Rivers, 1995-2003



Dam

# Barley, Rye, Rice, Sorghum

Average Tonnage of Rye, Barley, Rice, Sorghum and Oats  
Through Columbia/Snake River Dams, 1995-2003



## Summary Findings

- **River transport still integral part of Multi-Modal Transportation System in Pacific Northwest.**
- **Total tonnage down slightly in last few years**
- **Increase competition from Rail/Truck reflected in the reduction of empty barge movements and the even distribution between up/down movements.**
- **Down river movements serve “Collection / Assembly” Function, primarily for grain and forest products.**
- **Up river movements serve “Supply / Distribution” Function**

# Questions ?

