

# **Offshore Newfoundland and Labrador Gas Flaring Reduction**

**Canada-Newfoundland and Labrador  
Offshore Petroleum Board**

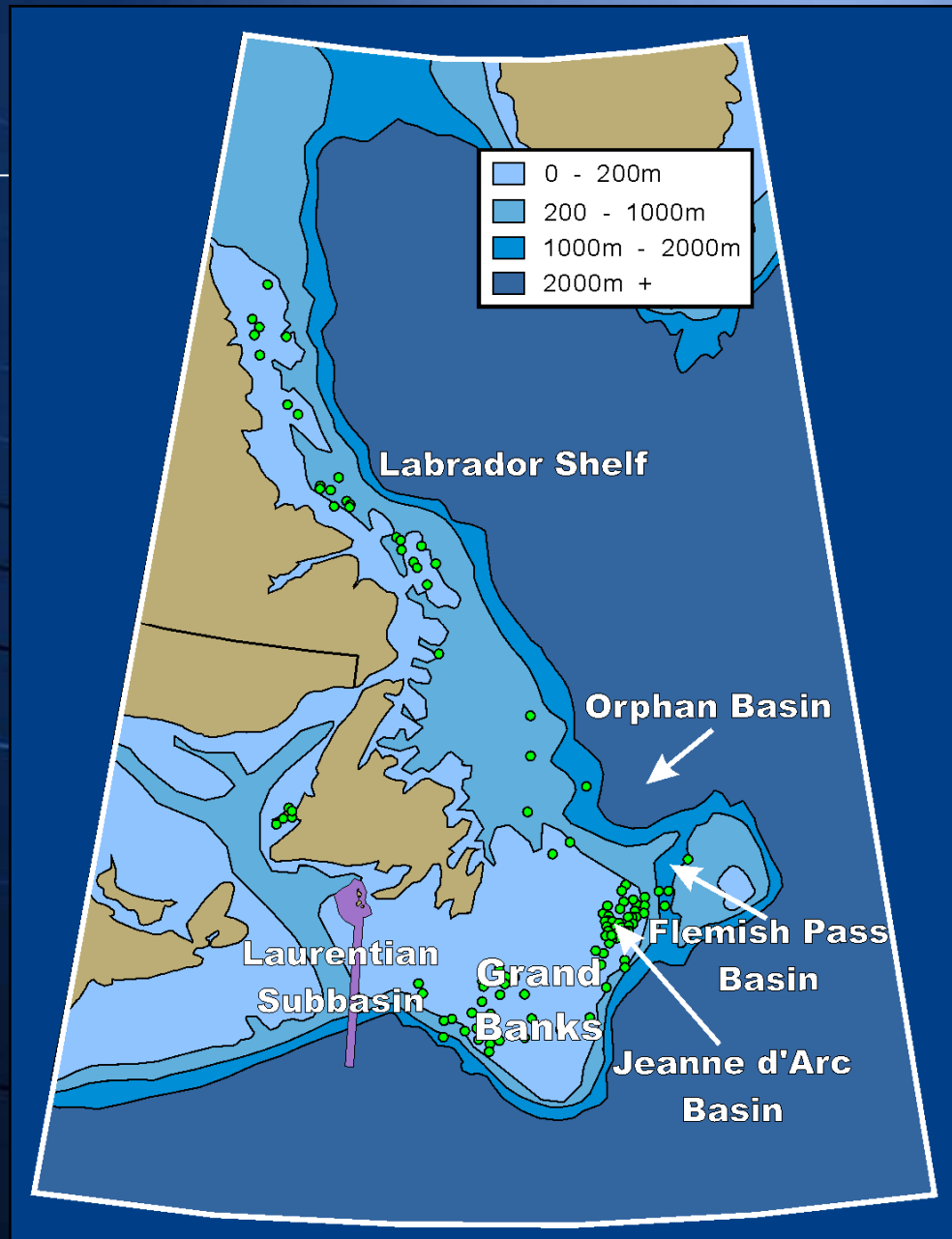
**September 2007**

# **Offshore Newfoundland and Labrador Gas Flaring Reduction**

- **Region and Production Overview**
- **Legislation**
- **Gas Conservation**
- **Gas Flaring Reduction Achievements**
- **Improvement Opportunities**

# Newfoundland and Labrador Offshore Area

- Relatively New Oil Producing region
- Potentially prospective area >200,000 sq. miles
- Wells Drilled ( July 2007): 288
  - Exploration 138
  - Delineation 44
  - Development 106
- 49 Significant Discoveries
- 6 Commercial Discoveries



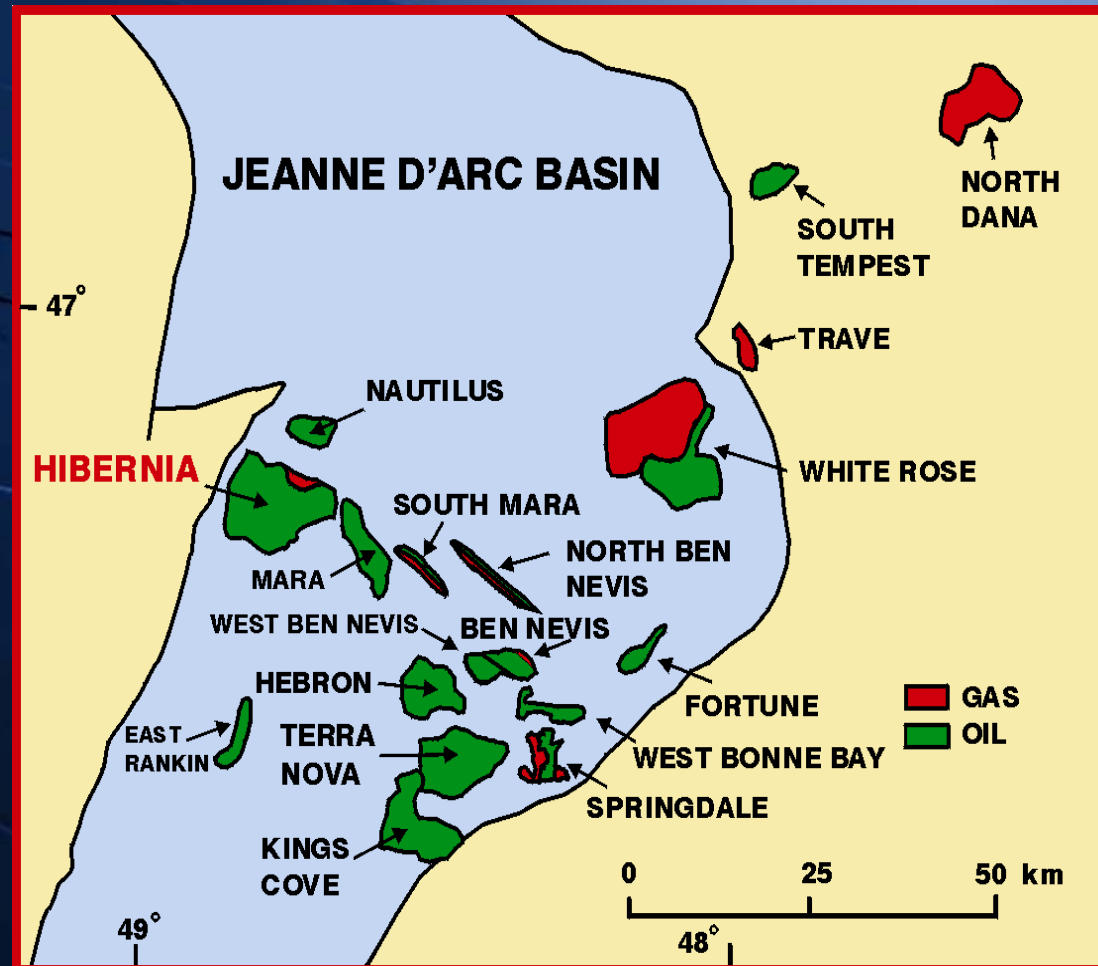


# Offshore Newfoundland and Labrador Production Review

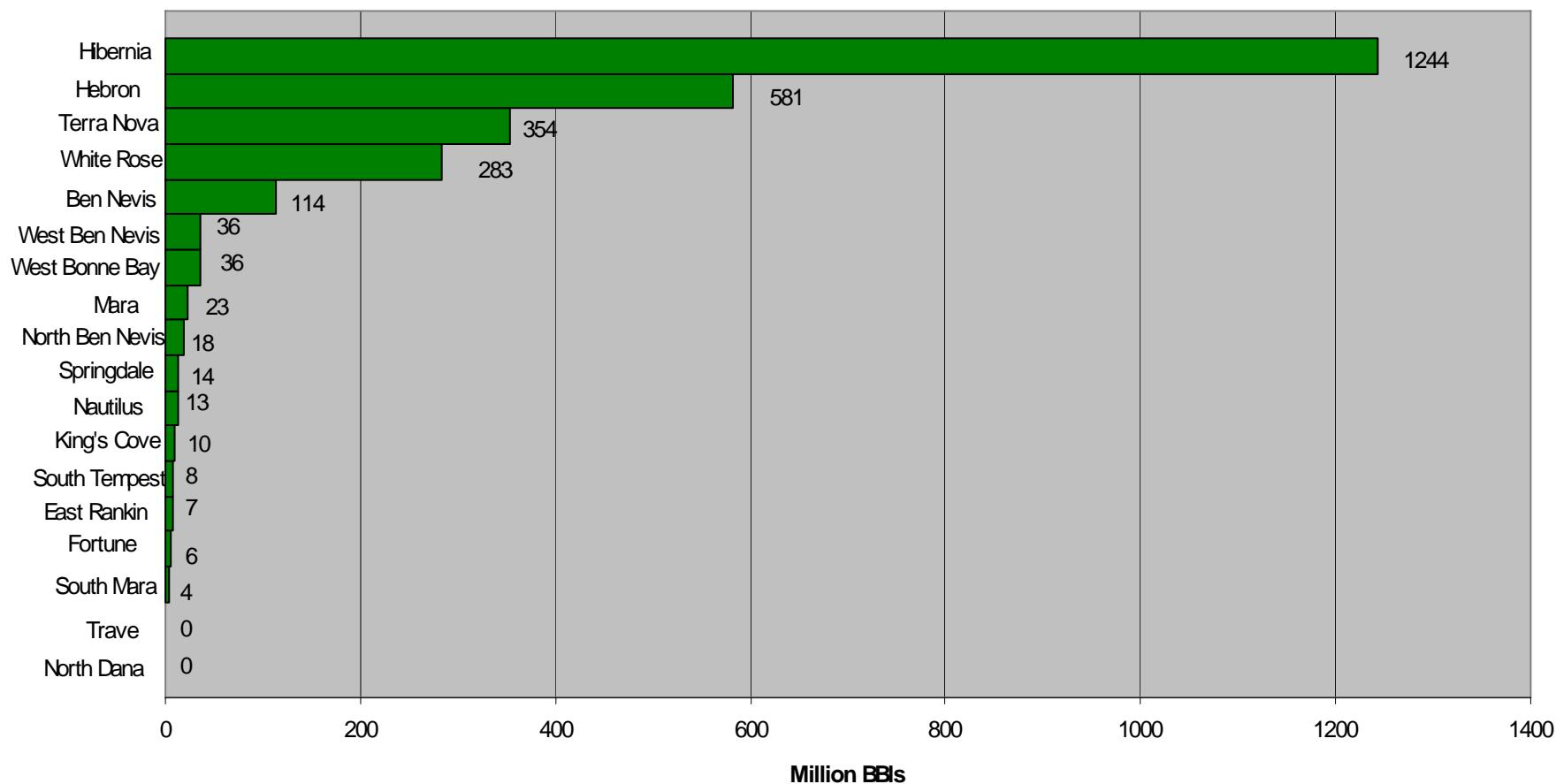
- Currently concentrated on Oil production

## For Year 2006

- Oil  
=  $17,622 \times 10^3 \text{ m}^3$
- Gas  
=  $3,568 \times 10^6 \text{ m}^3$
- Over 800 million barrels of oil produced in 10 years
- Hebron Field

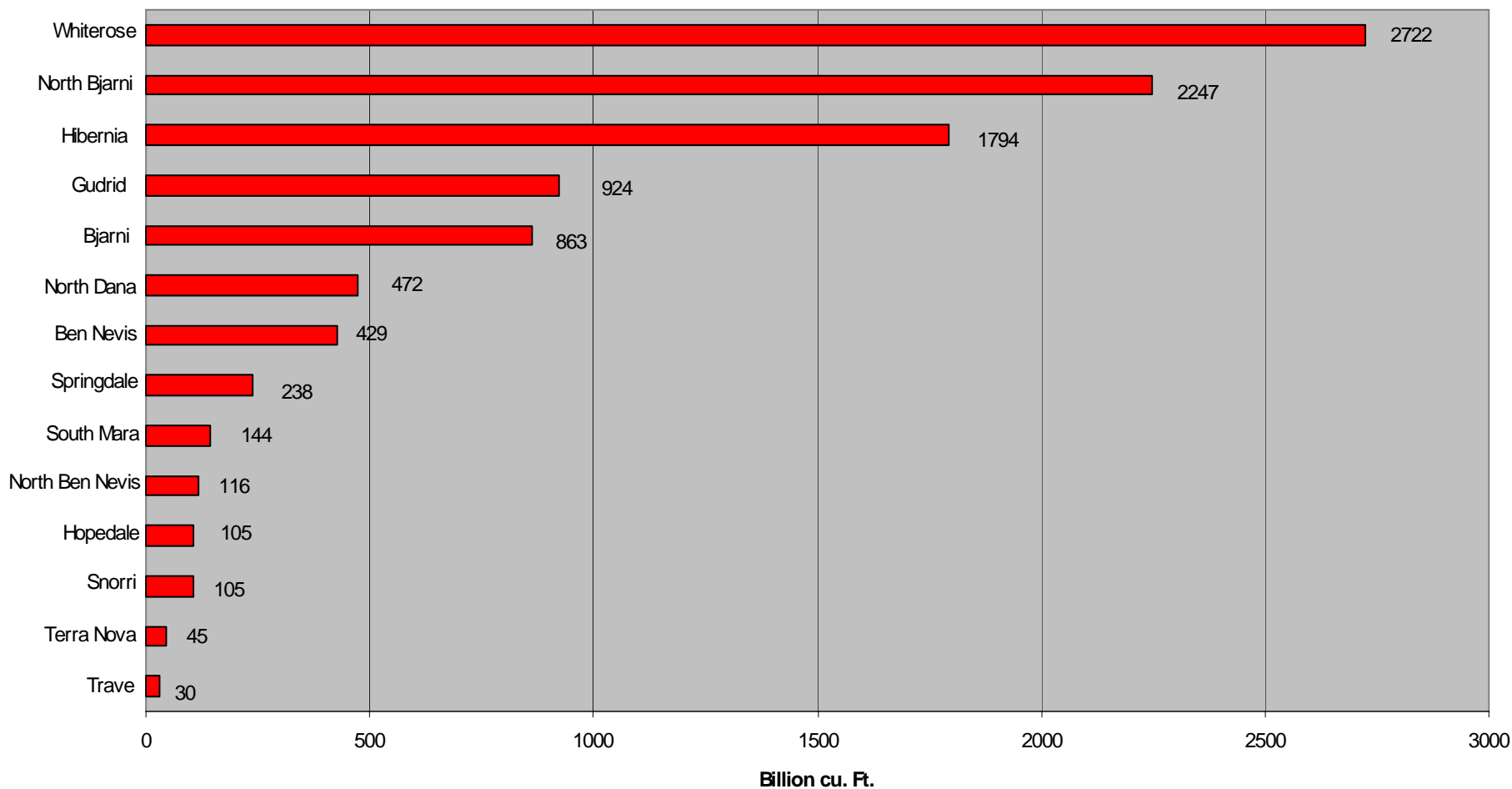


# Newfoundland and Labrador Offshore Area Oil Reserves and Resources 2006



Source: CNLOPB Annual Report 2005

# Newfoundland and Labrador Offshore Area Gas Resources 2006



# Gas Conservation Legislation

- Accord Act Section 154 addresses “Waste” and Paragraph (f) deals with gas flaring specifically: *the escape or flaring of gas that could be economically recovered and processed or economically injected into an underground reservoir*
- Production and Conservation Regulations: *The Chiefs may approve the flaring or venting of gas during a production operation at a rate and volume and for the period set out in the approval where the flaring or venting does not constitute waste or an undue safety hazard.*
- Development Plan Approvals

# GAS DISPOSITION: OIL FIELDS

- Gas Utilization in the Field
- Gas Utilization in other Fields
- Market Gas
- Gas Storage



Source: Petro-Canada



# **Gas Flaring**

## **Offshore Newfoundland and Labrador**

- **During production**  
an operator is issued an approval
- **During Start-up**  
larger gas flaring volumes are permitted as oil production is stabilized

### **During Production**

**Once gas compression is initiated, gas flaring is monitored**

**Gas Flare Volumes are reduced based on expected operating efficiency of gas compression system and facilities**

# **Gas Flaring**

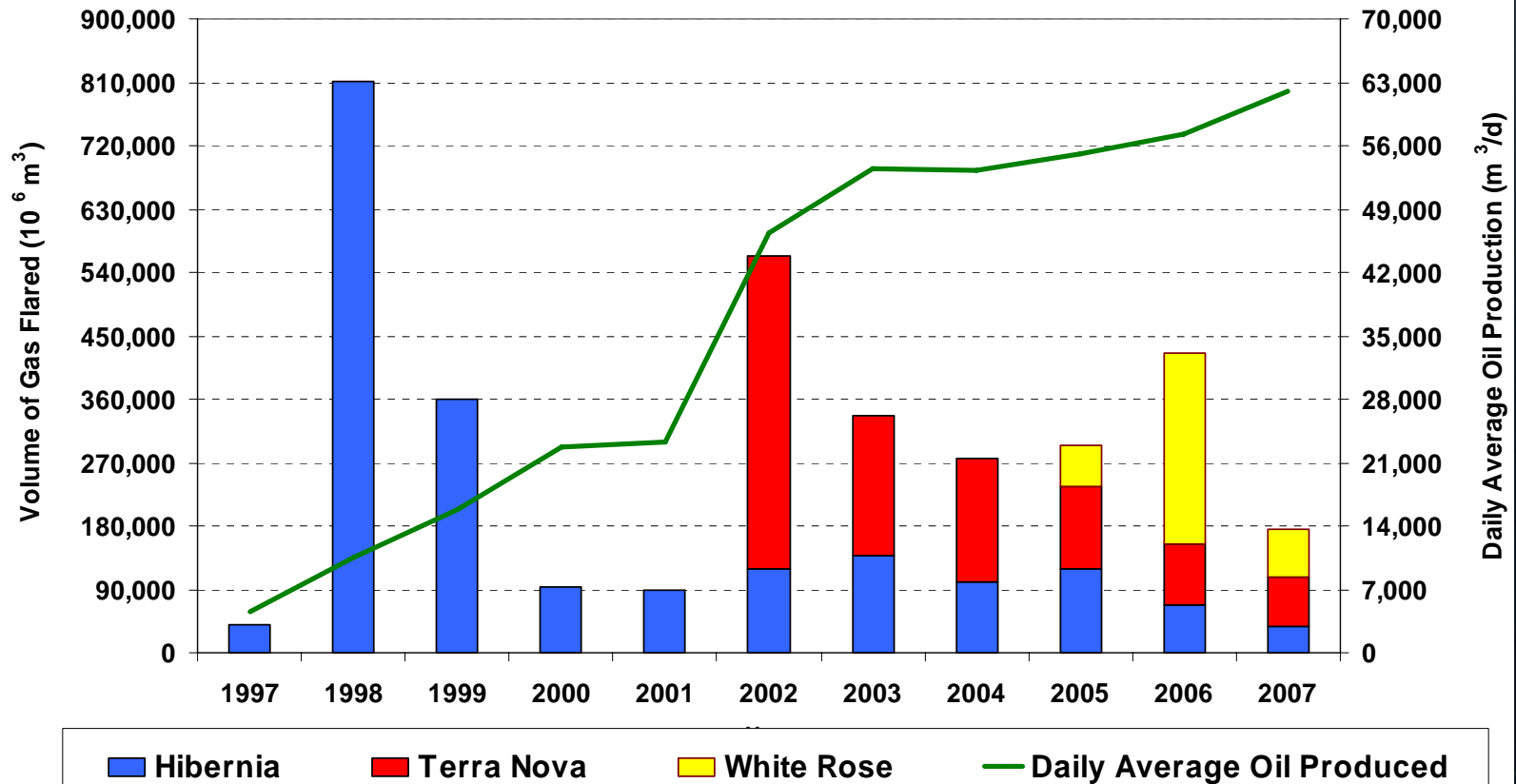
## **Offshore Newfoundland and Labrador**

- **Gas Flaring Approval is issued for six month period (1 year later)**
- **Prior to issuing an approval**  
**Examination of performance and meet with operators to discuss opportunities to reduce gas flaring**
- **If Gas compression is down for a period of time, the operator is expected to reduce oil production**
- **Each operator has put in place a gas flaring management system and is considered by operational personal**
- **As production from the field increases,**  
**Gas flaring has not increased**  
**the Board seeks further reduction**

# Offshore Newfoundland and Labrador Gas Flaring Reduction and Achievement



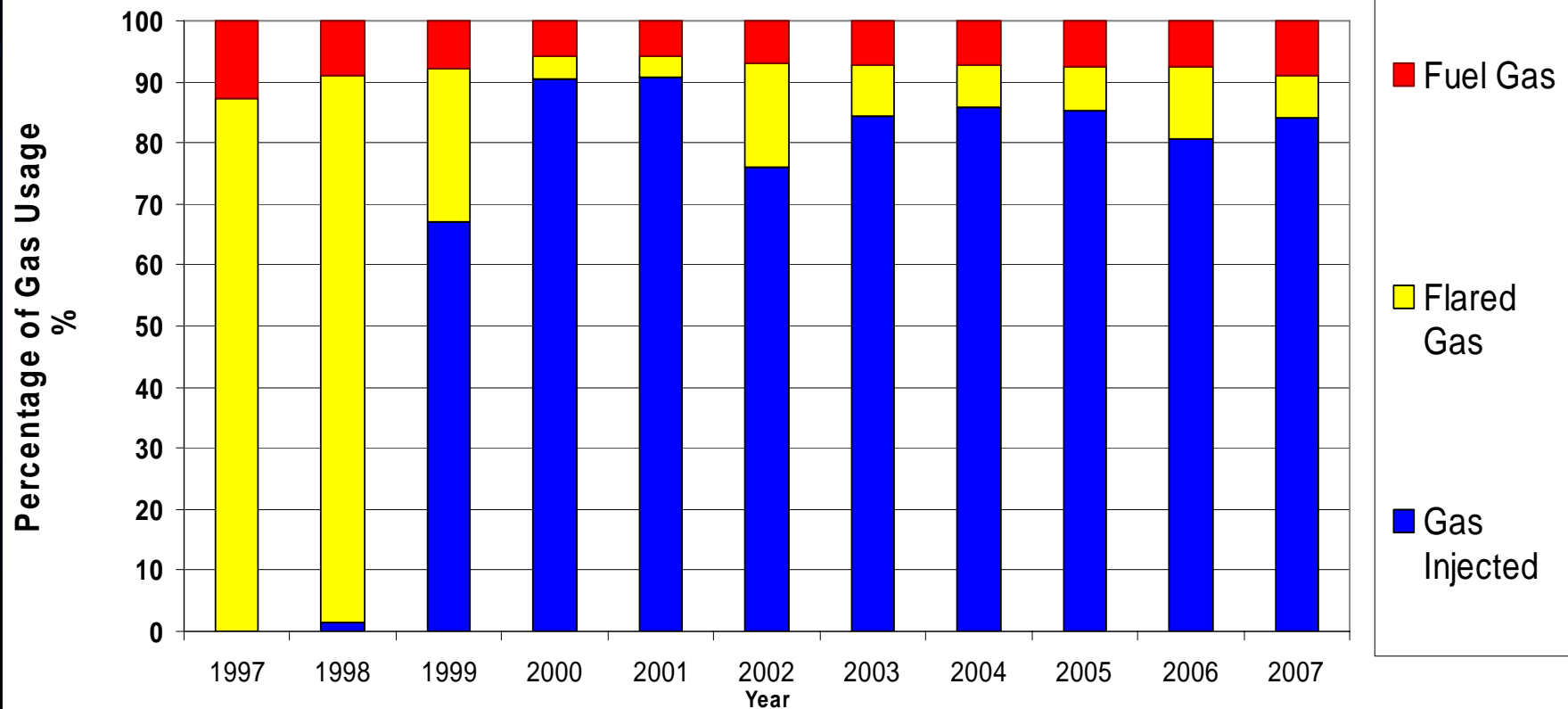
Flared Gas Yearly Cumulative Totals  
And Daily Average Oil Produced



# Offshore Newfoundland and Labrador Gas Flaring Reduction and Achievement



## Total Gas Usage Breakdown



# Improvement Opportunities for Gas Flaring Reduction

- **Commissioning**  
lessons learned
- **Operations**
  - ✓ Maintenance/Spare Parts
  - ✓ Operating Procedures
  - ✓ Elimination of Background Flare
- **Working with Operators**
- **Tracking the gas flare amounts on a monthly basis**



# Gas Flaring Reduction



Source: Government Newfoundland and Labrador