

Woodstove Changeout Program

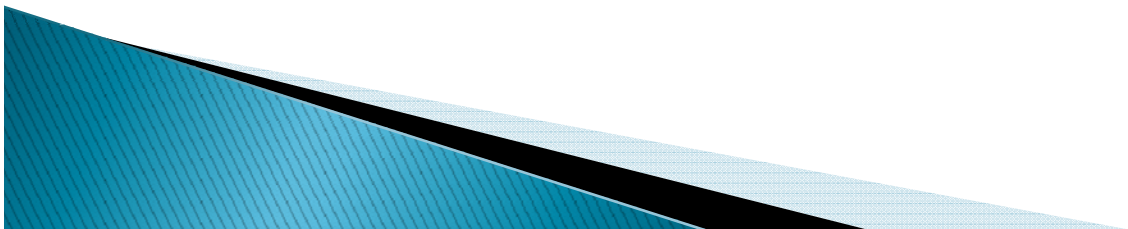
Libby, Montana





THE PROBLEM AND CHALLENGES

- Topography
- Air Quality History
- Economy
- Abundance of Wood/Forest Access
- Outreach
- Impaired Respiratory Population

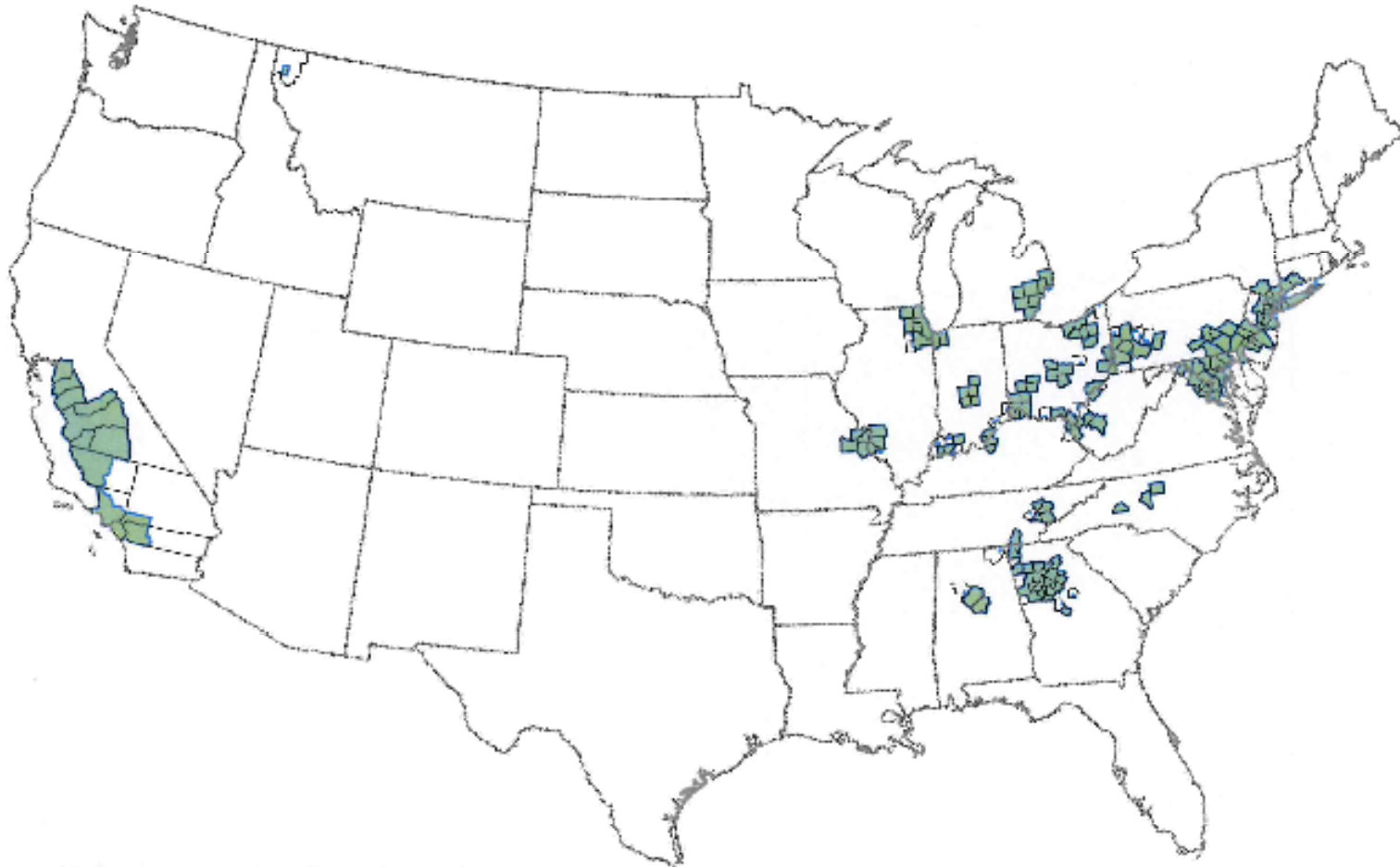


Hundreds of Libby residents suffer from asbestosis, mesothelioma and other lung abnormalities.

Because of the increased incidence of pulmonary disease, elevated particulate matter levels pose an increased health risk in the Libby area.



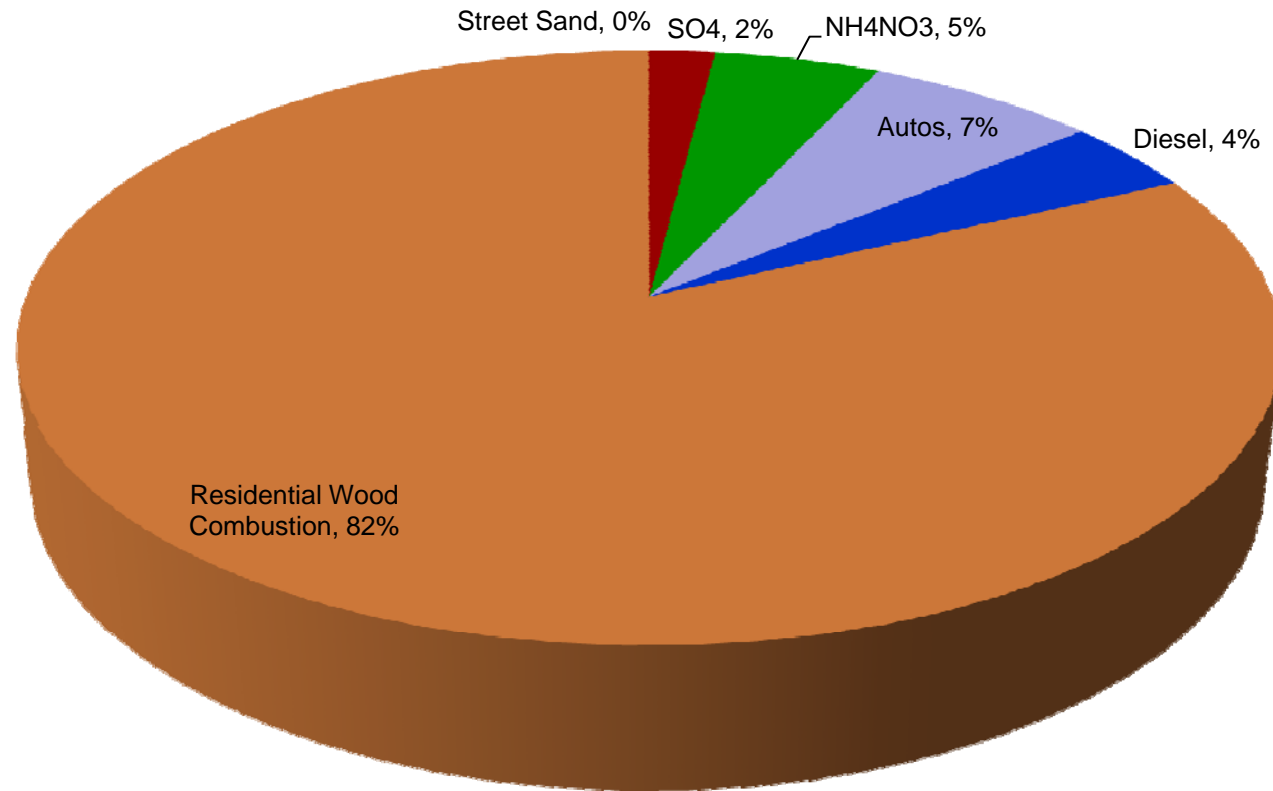
PM-2.5 Nonattainment Areas (1997 Standard)



Nonattainment areas are indicated by color.
When only a portion of a county is shown in color,
it indicates that only that part of the county is within
a nonattainment area boundary.

12/2010

Libby, Montana Source Contribution Estimates
University of Montana Study
November 2003 – February 2004



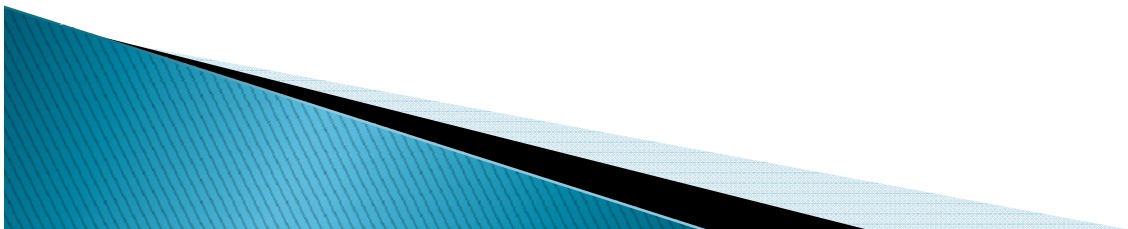
AIR QUALITY CONTROL ORDINANCE

Outdoor Burning

Dust Control

Woodstove Use

- EPA certified woodstoves ONLY
- No use of any woodstove during an air alert
- Decreased opacity limit from 25% to 20%
- Set conditions for issuing an air alert
- Increased penalties for violations
- Set boundaries of air pollution control district



PARTNERS & FUNDING

- ✓ EPA, Montana DEQ, and the Hearth, Patio & Barbeque Association (HPBA) collaborated with Lincoln County in designing and implementing the woodstove changeout program.
- ✓ Over \$2 million in funding was received by the program through a variety of grants and donations.
- ✓ This funding was divided equally between Phase 1 and Phase 2 of the program.

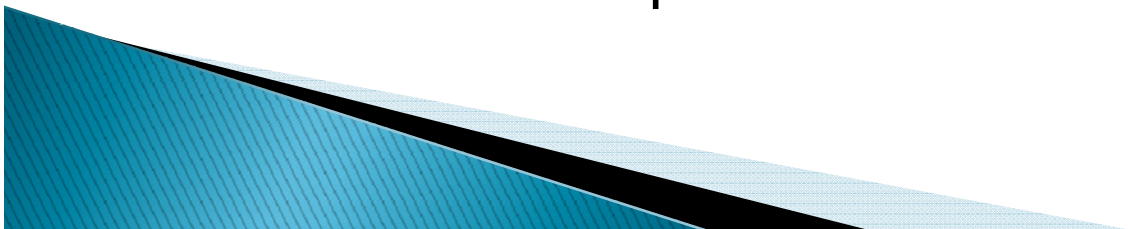


THE PROGRAM

Phase 1

Changeout of wood heating appliances in low-income households (2005-2007), with 260 units replaced.

- ✓ Program Outline:
 - Application/Eligibility
 - Site Inspection/Stove Assignment
 - Installation
 - Old Stove Disposal
 - Follow-up






THE PROGRAM

Phase 2

Changeout of appliances in remaining households and businesses (2006-2008), with 828 units replaced in the target area.

A stove rebuild/catalytic unit replacement program was included to rebuild or refit existing certified stoves that were still useable, but were not operating properly due to their condition. 91 rebuilds were completed.

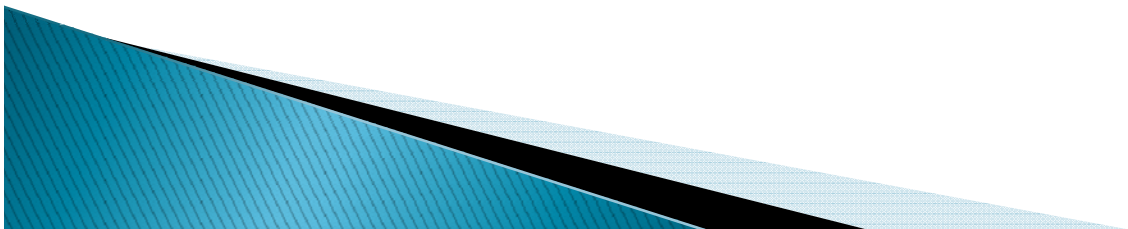
A bounty was offered to those households willing to simply give up their old woodstove. 9 woodstoves were surrendered.



THE PROGRAM

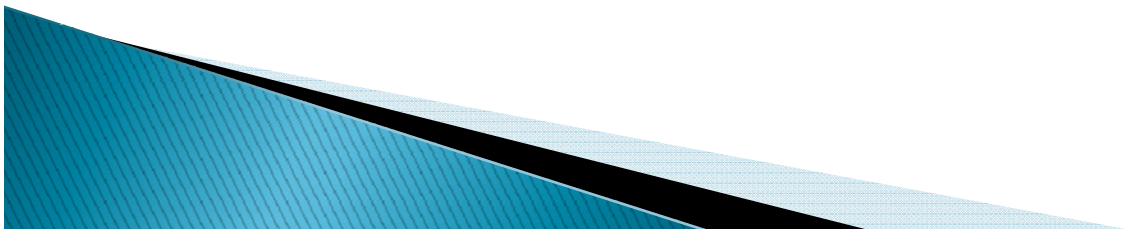
Phase 2

- ✓ Program Outline:
 - Application
 - Site Inspection
 - Voucher Issue
 - Installation
 - Old Stove Disposal
 - Dealer Payment
 - Follow-up



Voucher values:

1.	Approved heating appliance (certified wood, pellet, gas, oil, electric) of at least \$700 retail value	\$700.00
2.	Installation of approved heating appliance by certified dealer or independent installer	\$350.00
3.	Removal of stove and decommissioning of wood burning capability	\$200.00
4.	Early application incentive	\$100.00
5.	Furnace replacement or upgrade with pellet, oil, certified wood, or gas furnace	\$1400.00

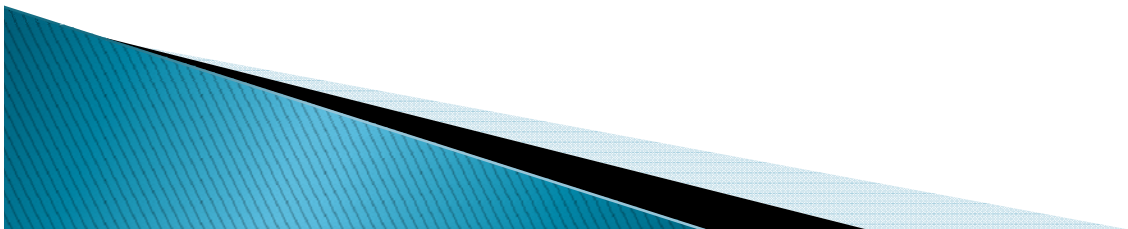


THE PROGRAM

Phase 3

Gather data on the air quality effects of the program through continued monitoring and data analysis and prepare a final report. Promote proper stove use through education, in order to maximize effectiveness of the woodstove changeout program.

- ✓ Program Outline:
 - Air Sampling
 - Final Report
 - Community Education!!



Program summary

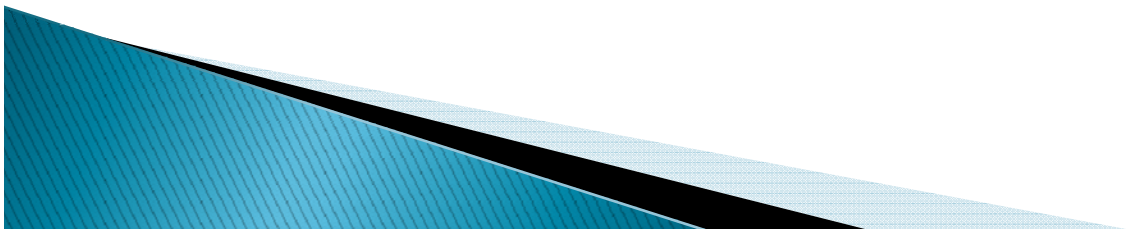
Phase 1: 260 Changeout installations completed

Phase 2: 828 Changeout installations completed

91 Stove rebuilds

9 Woodstoves surrendered

PROGRAM TOTAL 1188



Program summary

Of the 828 woodstoves changed out in Phase 2:

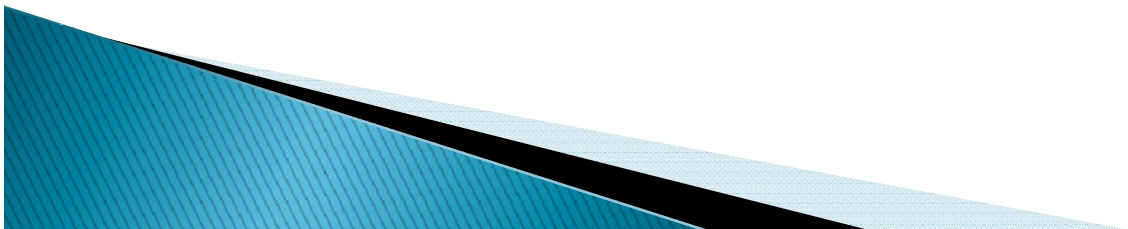
72% were replaced with a woodstove,
insert or furnace

16% changed to pellet

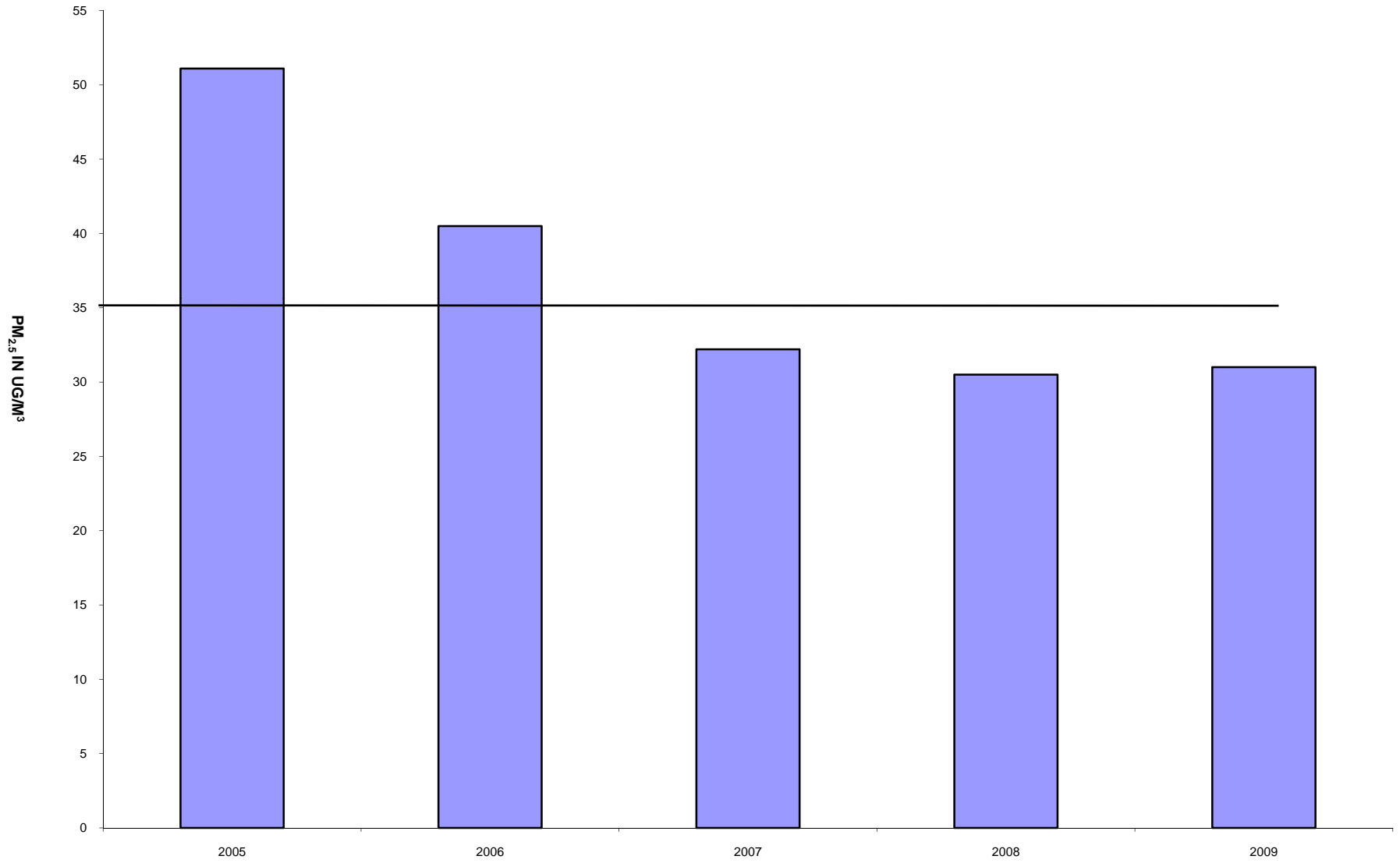
7% changed to propane

3% changed to oil

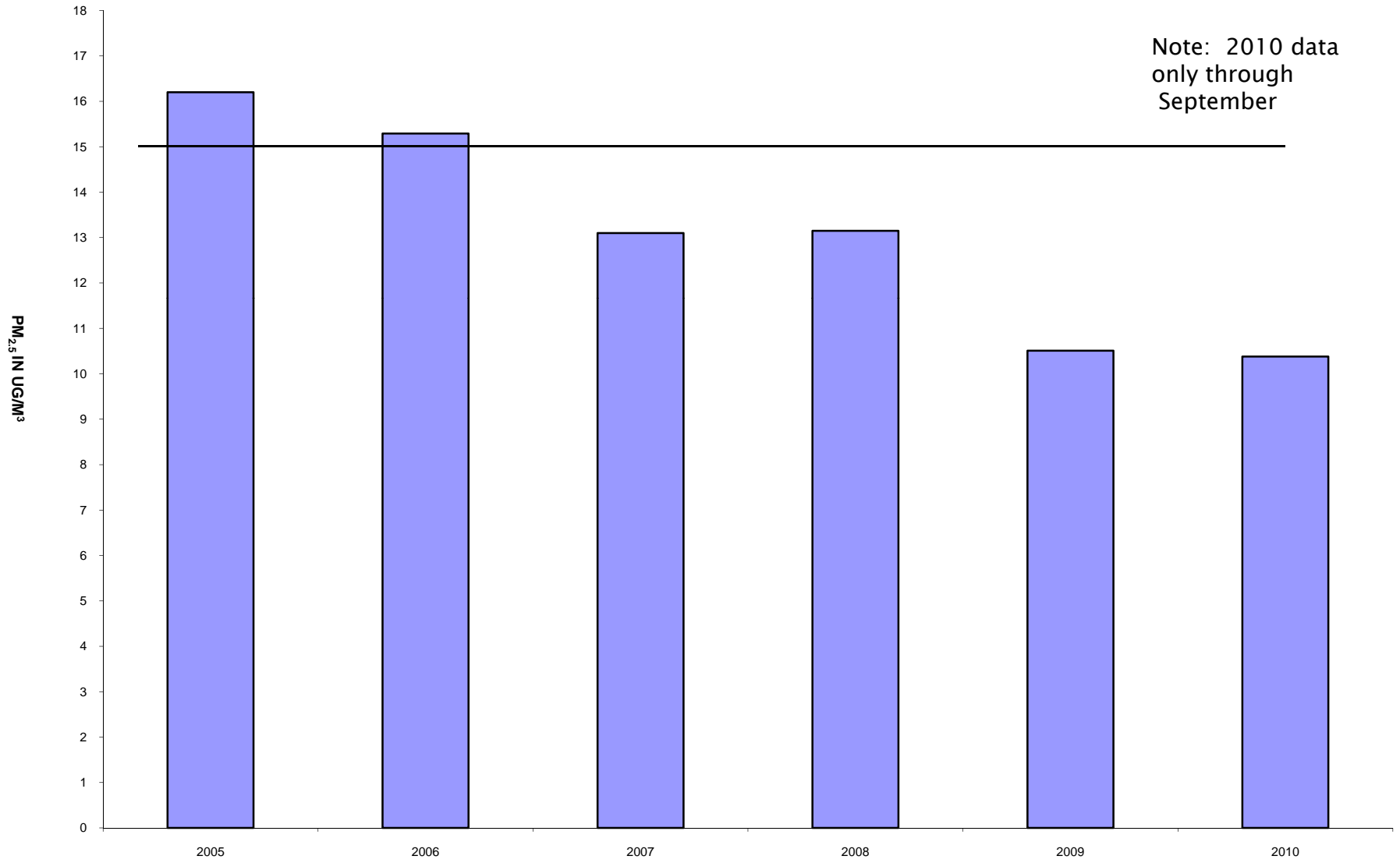
2% changed to electric



PM_{2.5} 24 HOUR STANDARD



PM_{2.5} ANNUAL STANDARD



Note: 2010 data only through September

INDOOR AIR QUALITY

- 20 homes were randomly selected to participate in a University of Montana study of indoor air quality.
- Indoor $PM_{2.5}$ levels were measured for 24 hour periods pre- and post-changeout.
- Homeowners kept logs during the testing so that unusual readings could be explained or excluded.
- Preliminary results showed the average reduction in indoor $PM_{2.5}$ levels to be approximately 72%.



KATHI HOOPER
Lincoln County
Dept. of Environmental Health
418 Mineral Ave
Libby, MT 59923

406-283-2440
khooper@libby.org

