



Working Together for Clean Air

www.pscleanair.org



A Rural Community Tackles its Wood Smoke

**Dave Kircher,
Air Resources Manager**

August 2005



About Darrington, Washington



- Nestled in the foothills of the Cascade Mountains, ~2 hours from Seattle
- Population of 1136; 95% Caucasian
- Median household income in 1999 was \$32,813
- 5% of families and 9% of individuals below poverty line
- 505 housing units
- 76% of homes were single-family detached units
- 54% of homes were built in 1940 or earlier
- 36% use wood heat





- **Town approached agency for help, monitoring**
- **Citizen work group = grass roots effort to find solutions to pollution**
- **Surveying residents for emission inventory and attitudes before designing change-out**
- **Agency funding to get woodstove change-outs started**
 - **Cleaner heating systems = higher financial incentives**
 - **Incentives for cleaner choices should yield more air quality benefits**
- **Change-out program uses local retail and installation sources**
 - **Incentive money stays local**
 - **Stimulating local economy, while cleaning the air**

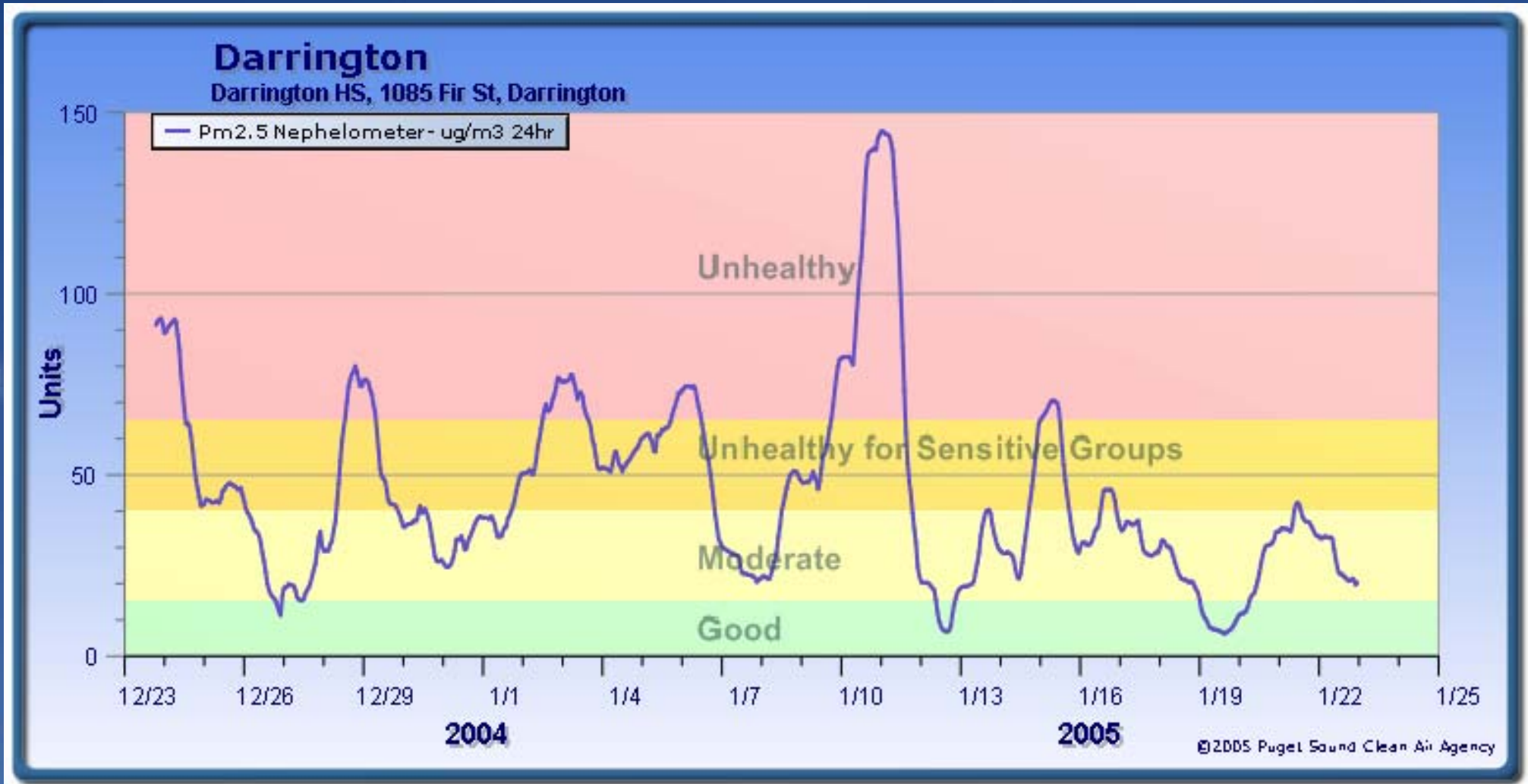
Town Invited Agency to Assess Air Quality and Assist with Solutions



- **Some citizens and town council members concerned about wood smoke pollution**
- **Permit application for proposed operational changes at local lumber mill prompted concerns about air pollution**
- **Town asked agency to install monitor before issuing permit (“Careful what you wish for!” –Jim Nolan)**



Wintertime Air Quality



A Typical Winter Morning in Darrington



Concurrent 1-hour PM_{2.5} reading : ~ 68 $\mu\text{g}/\text{m}^3$

FEB 11 2005

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Partnership Between Town & Agency



- **Citizen workgroup headed by town council members guides overall project and provides critical local perspective**
- **Agency devotes resources to provide air quality monitoring, develop public education materials, and finance a woodstove/insert buy-back program**





- **Citizen workgroup sent 9-question survey to all 525 households in town, seeking information**
 - Heating source(s) & usage preference
 - Fuel usage
 - Source of firewood
 - Condition of home (weatherization needed?)
 - Interest in participating in voluntary changeout program
- **Incentive to return survey by deadline: drawing for four prizes worth \$150 in clean heating fuel (electricity, propane, oil, pellets, compressed logs)**
- **By deadline, at least 50% returned!**
- **Workgroup proposes door-to-door follow-up with non-responders, with one additional prize drawing for latecomers as incentive**

Survey Contents



The way we heat our homes in the wintertime is making our air less healthy.

That is the finding of air monitoring conducted in our town last fall and winter. At times, the levels of fine particles in the air (particles that endanger our health) were higher in Darrington than in the industrial areas of Seattle and Tacoma.

Your mayor and town council are concerned. We live here. This area is our home. We all want clean, healthy air to breathe – for ourselves and our families. We want to enjoy this beautiful spot year-round.

We can make our wintertime air cleaner. But first we need to know more about our heating habits. We have formed a citizen's group to study and better understand this air quality problem and to find solutions. The group's first effort involves gathering information about how we heat our homes and other buildings.

Please take a few moments to answer the nine questions below and return the survey, postage-paid. The information you provide will be used ONLY for this clean air project.

Your Mayor and Town Council,

Joyce Jones, Kerry Frable, Sandi McCaulley, Dan Rankin, John Rosselli, & Gary Willis

1. Do you own or rent your home?

- Own Rent

2. What address is this survey for?

3. What buildings are heated at this address?

(Check all that apply)

- Residence Additional occupied buildings
 Garage/shop Business

4. What heat sources are used at this address?

(Check all that apply)

- Propane Wood stove –1992 or newer
 Oil Wood stove – pre-1992
 Pellet stove Wood stove, age not known
 Fireplace Electricity

5. Please rate how often each of the heat sources from question 4 are used:

(1 = most used, 2 = used some, 3 = least used)

- ___ Propane ___ Wood stove –1992 or newer
___ Oil ___ Wood stove – pre-1992
___ Pellet stove ___ Wood stove, age not known
___ Fireplace ___ Electricity

6. How much fuel is used to heat the building(s) at this address in an average year?

- _____ gallons or \$ of fuel oil
_____ cords of wood
_____ gallons or \$ of propane
_____ bags / tons (circle one) or \$ of pellets
_____ kWh or \$ of electricity
(total electric bills OK)

7. If you burn firewood, where do you get it?

(Check all that apply)

- I have access to free wood I buy a permit to cut/gather wood
 I buy it (cost per cord: \$_____) (permit cost: \$_____)
 Other _____

8. What insulation does this residence or business have? (Check all that apply)

- good insulation single-pane windows
 little or no insulation multi-pane windows
 poor weather-stripping storm windows
 good weather-stripping

9. If grant money was available to help reduce the cost of installing more-efficient heating that would also help protect Darrington's environment, would you be interested in installing: (Check all that apply)

- insulation weatherization
 new wood stove wood pellet stove
 oil heating/stove propane heating/stove
 electric heat I'm not interested in making any changes

1
Fold
at this
line

2
Fold
at this
line

THANK YOU!

Completed surveys returned by August 3rd will be entered into a drawing for \$150 worth of pellets, presto logs, propane, oil, or electricity to help with your home heating needs. Four prizes will be awarded at a drawing on August 10th. One entry per address. Fold and mail your completed survey today, postage-paid (or drop it off at Town Hall) to be eligible to win!

It's as easy as 1, 2, 3!

Survey Mailer



Darrington Home Energy Survey
Darrington Town Hall
PO Box 397
Darrington, WA 98241

Name: _____
Address: _____

Help us • Help you • Help Darrington
Complete & return by **August 3rd** — you could win
\$150 toward heating your home this winter

**HELP US
HELP YOU
HELP DARRINGTON**

YOU COULD BE ONE
OF FOUR WINNERS
OF **\$150** TOWARD
HEATING YOUR
HOME THIS WINTER



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 1126 DARRINGTON WA

POSTAGE WILL BE PAID BY ADDRESSEE

DARRINGTON HOME ENERGY SURVEY
DARRINGTON TOWN HALL
PO BOX 397
DARRINGTON WA 98241-9901



3 Tape along this edge →



- **Agency and workgroup will develop specific goals and priorities for change-out program based on survey results**
- **Program should fit local independent culture**
 - Use town staff to administer change-out incentive program
 - Use town hardware store for products
 - Use local labor for installation
- **Agency will provide higher financial incentives for cleaner heating sources to maximize air quality benefits of dollars spent**

Proposed Program Flow



- Town issues change-out “voucher” to resident
- ↓
- Resident “redeems” voucher at hardware store
- ↓
- Hardware store provides product and coordinates installation
- ↓
- Installer removes old device for scrapping
- ↓
- Hardware store invoices town monthly for vouchers redeemed
- ↓
- Town invoices Clean Air Agency monthly for program costs



- **Developing education/outreach plan and materials**
- **Implementing necessary agreements for change-out program**
 - **Town & agency**
 - **Town & hardware store**
 - **Town & scrap metal handler for removed stoves**
- **Planning kick-off event in early October**
 - **Promote community involvement in community-led clean air effort**
 - **Hold at hardware store**
 - **Provide food!**
 - **Feature demonstrations of cleaner devices**
 - **Provide information about change-out incentives and program**
- **Finding more money for change-outs (hint, hint!)**

Need to Know More?



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