

## Pesticide Stewardship Partnerships

### Background

Since 1999, ODEQ has been using a voluntary, collaborative approach called Pesticide Stewardship Partnerships (PSPs) to identify problems and improve water quality associated with pesticide use at the local level. The PSP approach uses local expertise in combination with water quality sampling and toxicology expertise of ODEQ to encourage and support voluntary changes that cause measurable environmental improvements.

### Key Actions

The key actions of the PSP approach are to:

1) identify local, pesticide-related water quality issues; 2) share results early and often with local stakeholders; 3) explain data in relation to effects and water quality criteria; 4) engage the agricultural community for identifying and implementing solutions; and 5) use ongoing effectiveness monitoring to measure success and provide feedback to support water quality management.

PSPs use both water quality and crop quality as measures of success. Pest management and water quality management must both be effective for long term stewardship of natural resources.

### Success Stories

Working closely with local stakeholders, DEQ initially set up two pilot projects in the Columbia Gorge Hood River and Mill Creek, ODEQ set up PSPs to work collaboratively with local stakeholders to assess whether current use pesticides were detectable in local surface waters at concentrations of concern. In both basins, initial data showed repeated detections of chlorpyrifos above water quality standards. Hood River also showed ambient water quality criteria (AWQC) exceedances for azinphos methyl and Mill Creek showed exceedances for malathion. Local partners, including the fruit growers and OSU extension, examined the water quality data and made changes to pesticide management and application practices.

Both pilot projects in the Columbia Gorge, Hood River and The Dalles, have shown substantial improvements in water quality associated with measurable changes in pesticide management practices. Representative changes for these

projects may be seen on the graphs on the back page.

### Effective Approach for Water Quality Protection

The improvements in water quality and the downward trend in organophosphate detections seen in the Columbia Gorge pilot projects indicate that ODEQ's innovative PSP approach can lead to environmental improvements within a two to five year timeframe. While the results presented focus on chlorpyrifos and malathion, the reductions reflect changes in management practices that could reduce effects from other current or future use pesticide formulations.

These early results suggest that the PSP approach can be an effective and timely alternative to traditional regulatory approaches for nonpoint source issues.

### 2005/2006 Pilot Projects

In 2005, based on the early success of the PSP approach, DEQ established three new partnerships with local stakeholders in the Walla Walla, Clackamas and Pudding River basins. The land use in these basins include tree fruits, row crops, and complex mixed land uses. ODEQ has collected one year of sampling data in each of these basins to use as baseline data. Local partners in each area are actively collaborating on the 2006 sampling plans and will be evaluating specific changes in management practices needed to improve water quality while protecting crop quality. ODEQ will continue to work closely with local stakeholders in each of these basins, providing ongoing in-stream monitoring and technical support for these projects.

In 2006, DEQ will be launching a PSP in the Yamhill basin to evaluate whether the PSP approach can be used effectively in conjunction with TMDL development to restore water quality. West Fork Palmer Creek in the Yamhill basin is on the 303(d) list for chlorpyrifos.

For more information on these projects, or if you would be interested in starting a Pesticide Stewardship Partnership in your watershed, contact Kevin Masterson at 503-229-5983 ext. 260, or email [masterson.kevin@deq.state.or.us](mailto:masterson.kevin@deq.state.or.us).



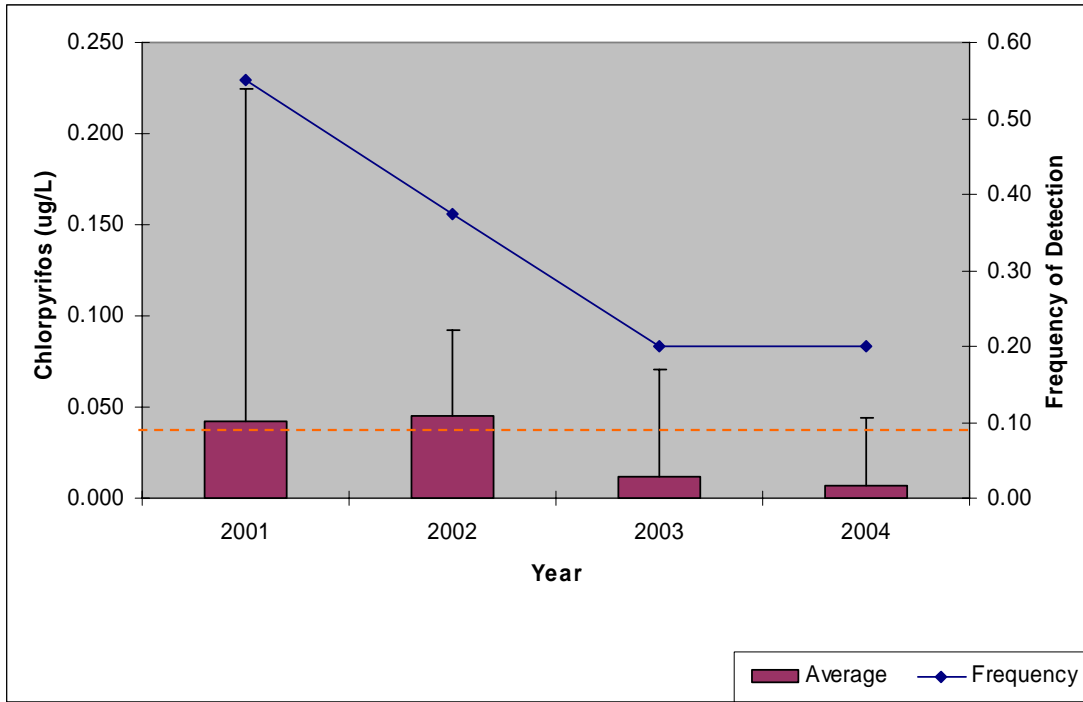
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### Hood River Pesticide Stewardship Partnership

The following graph shows results of spring sampling for chlorpyrifos in a small tributary in the Hood River basin, between 2001 and 2004. The changes in water quality follow changes in pesticide management practices implemented as part of the PSPs.



### The Dalles Pesticide Stewardship Partnership

The following graph was excerpted from **The Fifteenmile Creek Orchard Pesticide Pollution Risk Study 2004 Annual Report**. They show similar improvement in water quality resulting from voluntary implementation of best management practices. The report also presented data showing a concurrent 50% reduction in farmer reported applications of malathion over the study period.

#### Malathion Sampling

