The background of the entire page is a photograph of a paved road. On the left side of the road, there is a grassy area where several pieces of trash have been dumped. Visible items include a black tire, a black plastic container, and some wooden sticks. The background is filled with green trees and foliage.

Illegal Dumping in the Mohawk Watershed

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Acknowledgements

Special thanks to all the people who extended their knowledge, support, enthusiasm, and resources to this project.

Thank you,

Eugene District of BLM for hiring us to help alleviate illegal dumping on the lands they manage and providing us with raw data to analyze, allowing us to borrow the data logger, answering our questions, and genuine interest in our project.

The Lane County Youth Services Crew for letting us observe their process, for their dedication and hard work cleaning up the forest, and for letting us pick their brains about illegal dumping issues.

BLM, USFS, Waste Management and county employees who took the time to tell us about illegal dumping in Lane, Linn, Benton, and Douglas counties.

Steve Mital for his knowledge, participation, and encouragement.

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1 Executive Summary

Illegal dumping on public lands is a serious issue. Not only are dump sites expensive to clean up, but they can contain toxins that, when leached into the ground, become an environmental threat to the health of neighboring terrestrial and fluvial ecosystems.

In an effort to help the Bureau of Land Management (BLM) combat illegal dumping on their lands, we, the 2004-2005 SLP Illegal Dumping Team, have analyzed the spatial distribution and composition patterns of illegal dumping in both the Mohawk watershed and a specific area of BLM land west of I-5. With this information, we were able to recommend future clean up crew routes west of I-5 and analyze the effectiveness of current clean up routes in the Mohawk watershed. Additionally, we created www.DumperStumper.com to allow the public to report illegal dump sites and to facilitate BLM tracking of illegal dumping and illegal dumping hot spots. We created and launched an Adopt-a-Forest program for the Shotgun Creek and Drury Creek sub-basins of the Mohawk Watershed to leverage public support for cleaning the forest and to allow the BLM to focus their cleaning efforts on areas with more severe dumping problems.

We began our project by researching illegal dumping in Lane County and neighboring counties by interviewing land management agency personnel. We were unable to directly compare the counties because the information we obtained was largely anecdotal. We did learn that Douglas County has not charged tipping fees for household garbage but still has an illegal dumping problem. While presenting our research to local user groups, some residents told us they believed transfer station hours of operation to be a significant factor in the illegal dumping problem.

The Eugene District BLM contracts the Lane County Youth Services Work Crew to clean illegal dumpsites. We looked at transfer station receipts from this crew from 2002-2004 to determine the recent history of illegal dumping in this region. Tires represent a significant portion of the money spent to dispose of garbage from illegal dump sites.

In the summer of 2004 the Eugene District BLM had surveyors locate and record the characteristics of illegal dump sites on BLM lands west of I-5. In January 2005, the BLM provided us with copies of these illegal dump site report forms. After entering the data onto a spreadsheet, we learned that the majority of illegal dump sites in this area are small, 0-5 garbage bags. We also learned that the most commonly dumped item in this area are household goods, metal, appliances, and tires. Our findings and recommendations are located in Section 6: Public Lands West of I-5.

The data for each site, including size and composition, was matched up with the corresponding dump site location and mapped using ArcGIS. We compiled a final report on the dumping in this area west of I-5 that offers future clean up routing recommendations based on the locations of current dumping hotspots.

The biggest component of this project was the Mohawk watershed inventory. Using a Trimble GPS data logger, on loan from the Eugene District BLM, and a state loaned Jeep, we spent approximately 50 hours driving through all of the BLM land in the Mohawk watershed that was accessible. We took special care to focus on illegal dumping on BLM lands only. A total of 148 dump sites were located. The severities ranged from minor to major, although the majority of sites were scored with low severity.

We used this data to determine the areas of severity, most frequently dumped items, and the spatial distribution of current dump sites. The maps of dump site severity and size helped us to create recommendations for future clean up routes and choose pilot areas for our Adopt-a-Forest program.

The Adopt-a-Forest program is modeled after a similar program by the Clean Forest Coalition in Michigan. The goal of this program is to provide the local public with a way to help clean local forests. We selected the Drury Creek and Shotgun Creek sub basin areas as adoptable regions. We created a recruitment poster and presented the program to local groups.

Having local organizations become Adopt-a-Forest groups spreads the word about illegal dumping, gives local people an opportunity to help keep the nearby BLM lands clean, and can act as natural deterrent to illegal dumpers. Importantly, the BLM will be able to focus their dump site cleaning efforts on areas other than Shotgun Creek that have received significant dumping pressure in recent years. We recommend that the Eugene District BLM erect signs with the names of the Adopt-a-Forest groups in the Mohawk Watershed. Informing potential illegal dumpers that local groups are cleaning up the forests and concerned with illegal dumping can deter additional illegal dumping in the area.

We are looking for as many Adopt-a-Forest groups as possible. Each group is asked to choose to adopt the Drury or Shotgun Creek sub basins. The groups will overlap with one another because the convoluted logging roads in the region would make identifying unique routes difficult. Instead, we ask groups to adopt the entire sub-basin with the understanding that no group is capable of cleaning the whole area. We suggest each group organize two illegal dump site clean up events a year in their adopted area and clean what they can in a reasonable amount of time. The BLM will arrange to have disposal fees waived for clean up events. After the event, the group reports information on the quantity cleaned, time spent cleaning, and remaining items to DumperStumper.com.

Adopt-a-Forest groups also receive recognition through our DumperStumper.com website. The quantity cleaned by each group will be noted on the website along with general information about the Adopt-a-Forest groups.

We presented our Adopt-a-Forest program to five groups, the Mohawk Grange, the Marcola Neighborhood Watch, the Marcola Lions Club, and the Emerald Valley ORV Club. We also invited people to come to our clean up event on May 21st, 2005. The

groups responded to our information with support for our program and concern for their local environment.

To provide the public with access to online illegal dump site reporting and to aide our Adopt-a-Forest program, we developed a website at www.DumperStumper.com. This website can be used by the public to report illegal dump sites in on Lane County BLM land, by the BLM to search the reported dump sites and clean up reports, and by the Adopt-a-Forest groups to report clean up events.

The public can also learn more about the Adopt-a-Forest program, participating Adopt-a-Forest groups, sign up to be a volunteer for the BLM, and follow links to information on illegal dumping, disposal and recycling tips, and illegal dumping prevention programs.

The BLM can use DumperStumper.com to search and keep track of reported dump sites. By querying the reported dump sites, the BLM can learn more about illegal dumping patterns, locate hot spots, and inform Adopt-a-Forest groups of the dump sites located in their adopted areas.

DumperStumper.com and the Adopt-a-Forest program will be overseen by the Eugene District BLM. A University of Oregon student will act as a liaison during the 2005-2006 school year. The student will continue to increase stakeholder knowledge of illegal dumping issues, inform people of our program and website, update the website, and encourage organizations to participate in our Adopt-a-Forest program through community presentations and outreach. The Eugene District BLM will completely take over the Adopt-a-Forest Program and DumperStumper.com after that point.

On May 21st, 2005 we held an illegal dump site clean up day. The goal was to create a public event to launch DumperStumper.com and our Adopt-a-Forest program. The Eugene District BLM changed their observance of National Public Lands Day from the fall season to Spring this year to coincide with our Clean up Day. The Eugene District BLM sponsored our Clean up day as the Lane County National Public Lands day event. They provided gloves, trash bags, trucks for transporting trash from the dump sites to the transfer station, t-shirts, posters, and lunch to participants.

The Lane County Youth Services Work Crew, 3 volunteers from the Mohawk Grange, BLM employees, and a group of six individuals associated with the University of Oregon's Service Learning Program Illegal Dumping Team showed up for the Clean up day. We cleaned up 21 cubic yards of miscellaneous garbage, removed 21 tires, and recycled a metal culvert from Lane County BLM land.

2 Introduction

2.1 *Illegal Dumping Introduction*

Definition and commonly dumped items

Illegal dumping is the act of disposing of waste and household goods in an unregulated area. Household garbage, furniture, appliances, construction materials, animal carcasses, electronics, and tires are all items frequently found in illegal dump sites. Items such as methamphetamine production materials, potentially toxic substances like paint and oil, and electronic devices can be toxic to nearby terrestrial and aquatic ecosystems.



Figure 1 These photos show the variety of materials illegally dumped in the Mohawk watershed



Common dump site locations

Private lands, abandoned buildings, farm land, and recreation areas are all frequently targeted illegal dumping environments. Public lands often experience a problem with illegal dumping, particularly forested lands close to urban centers. In the illegal dump site surveys we performed on BLM land in the Mohawk valley, we found many dump sites down embankments on the side of the road and at the ends of road spurs. Some illegal dump sites, as seen in Figure 2, were piled directly along the side of forest roads. In general illegal dumpers prefer easily accessible, partially hidden areas due to the combined accessibility and decreased chance of being seen. During the Mohawk watershed survey we found dump sites in all of these locations. Notably, 35% of the dump sites we located were within 500 feet of a dead end. A complete summary of the results of our survey can be found in section [5.4 Physical Inventory of Dump sites](#).

The psychology of illegal dumping

Illegal dumpers can have a variety of reasons or justifications for their actions. One reason frequently cited by commentators involves an inability or unwillingness to pay proper disposal fees. Certain items (appliances, tires, electronics, furniture, etc.) are considered “special waste” and require an additional fee to dump at the landfill. Laziness and disregard or a lack of knowledge of environmental hazards caused by illegal dumping can also increase illegal dumping tendencies.

The United States Region 5 Environmental Protection Agency (EPA) published a comprehensive guide to illegal dumping issue in 1998. The guidebook states, “It is difficult to profile a ‘typical’ illegal dumper”. They continue by listing common offenders:

- Construction, demolition, remodeling, roofing, or landscaping contractors
- Waste management companies or general hauling contractors
- Operators of transfer stations or junkyards
- Automobile repair or tire shops
- Scrap collectors
- Local residents and “do-it-yourselfers”¹

A person could accept waste for a fee under the false guise of a waste hauling company, pocket the money, and illegally dump the trash. A home repair contractor could try to cut costs by illegally dumping used materials. Or, commonly, a person could avoid disposal fees for “special” items like mattresses, computers, appliances, and tires. Although hypothetical, these scenarios are representative of real occurrences.

While it is common to assume that eliminating disposal fees would significantly reduce illegal dumping, Douglas County’s illegal dumping problem is living proof that the issue is more complicated. Douglas County, as we discovered while researching dumping in neighboring counties, is unique in the fact that it does not require fees to dump household garbage. Despite the lack of disposal fees, the county still experiences illegal dumping, particularly on BLM lands. See [Section 8: Case Study Summary](#) for more details.

In our Mohawk watershed illegal dump site inventory, we noticed many dump sites that consisted of empty beverage containers, spent ammunition, and cardboard or other items that appeared to be the former focus of target practice. These sites appeared to be caused by a group of people that went out to the area for target practice and recreation then left without cleaning up after themselves. Figure 2 shows the primary sources of the dump sites we encountered in the Mohawk watershed survey. Each dump site source was determined by the types of materials dumped. While over half of the dump sites contained materials from residential sources, a significant amount, 20%, contained materials from recreational sources such as empty alcohol containers, food wrappers, spent ammunition, and items that appear to have been used for target practice. This shows that some illegal dumping is the result of people recreating on BLM land and leaving without cleaning up their recreation materials. Some recreational sites contain significant amounts of garbage.

Some illegal dumping is related to unlawful activities such as methamphetamine production. Methamphetamine production is illegal and extremely toxic to living

¹ United States. Environmental Protection Agency. [Illegal Dumping Prevention Guidebook](#). Chicago: 1998.

creatures and healthy ecosystems. As a result, methamphetamine production occurs frequently in hidden forested areas and the materials are illegally dumped or left in situ.

Although it is fairly easy to estimate the source of materials dumped, creating a dumper profile is much more difficult. During our public outreach campaign, we talked to Marcola locals and Eugene-Springfield residents about illegal dumping in the Mohawk Valley. Local groups with whom we spoke believe the dump sites are caused by Eugene-Springfield residents, while the Emerald Valley Trail Riders Association believed that the locals are responsible for the illegally dumped garbage. Discovering who is responsible for illegal dump sites is extremely difficult without witnessing the actual dumping event.

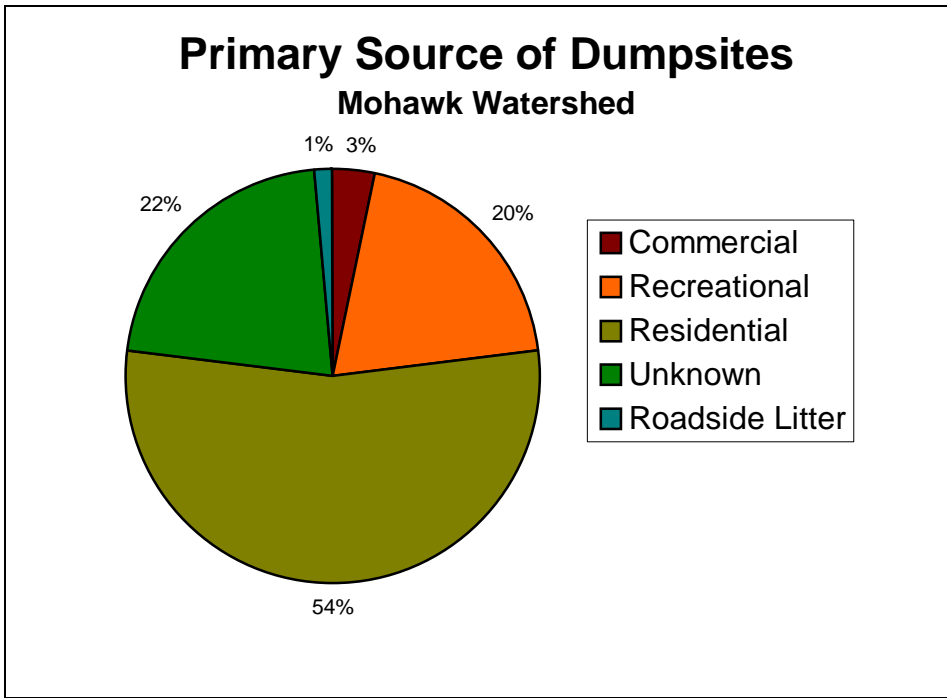


Figure 2 Primary source of dump sites in the Mohawk Valley

2.2 Why Illegal Dumping is a Problem

Illegal dumping is extremely expensive to remediate. The costs are both economic and ecological. The most obvious economic costs are the clean up costs, including: labor, equipment, cleaning supplies, materials used for garbage collection, and the tipping fees for properly disposing of or recycling the garbage.

Q. Why do illegal dumping issues need to be addressed?

- A.** Because illegal dumping is:
1. Costly to clean up.
 2. Toxic to water, soil, and wildlife.
 3. UGLY to look at.

Some dump sites are more costly to remove than others due to location, size, toxicity, and a variety of other factors. Large appliances, cars, and garbage down steep embankments

require towing rigs to remove. Illegal dump sites that contain hazardous materials require special equipment to clean up. Usually a Hazardous Materials team is hired to clean up the extremely toxic sites that contain materials such as discarded methamphetamine lab products, and dangerous or unidentified chemicals.

Not an Ordinary Fish Tale...

Trish Hogervorst, BLM Salem district manager, noted an incidence where a BLM deputy saw some dead fish floating in a stream. He walked upstream and discovered an old methamphetamine lab so toxic it had killed all living organisms in the general vicinity.²

The less visible costs of illegal dumping include the costs to the environment. The loss of the natural aesthetic beauty of an area, the toxic endangerment of water and soils, and health decline of nearby ecosystems and wildlife costs attributed to illegal dumping that can't be wholly accounted for as dollar amount.



Figure 3 Representative dump sites

This barrel was shot full of bullet holes. Anything previously inside the barrel is now in the local water system.

These paint cans were left to rust in the forest. Rain water increases the infiltration rate of harmful paint byproducts into the soil and, later, the ground water.

Hoses, barrels, sinks and toilets are items sometimes used for methamphetamine production. Sites with these products may be toxic and need to be cleaned up by a Hazardous Materials team.

Additionally, areas with litter and illegal dump sites tend to attract more illegal dumping activity. The EPA Region 5 “Illegal Dumping Prevention Guidebook” cautions, “If not addressed, illegal dumps often attract more waste, potentially including hazardous wastes such as asbestos, household chemicals and paints, automotive fluids, and commercial or industrial wastes”.² For this reason, actively cleaning dump sites helps to prevent subsequent dumping.

2.3 The Service Learning Program

² Hogervorst, Trish. Personal interview. 21 Jan. 2005.

³ United States. Environmental Protection Agency (EPA). Illegal Dumping Prevention. Chicago: EPA, 1998.



The University of Oregon Service Learning Program (SLP) was established in 2002. This program creates learning experiences for students while providing “project-based assistance to agencies and organizations in Lane County who are working to improve environmental conditions.”³ Students learn how to develop, research, and professionally execute an environmentally focused project. The program benefits Lane County organizations and students by increasing the quality of experience based education and creating a network of contacts for both the soon to be graduates and the employers of Lane County.

Students are accepted to SLP through an application and interview process. They then select the project they will focus on. Each project team ideally consists of four undergraduate students and one graduate teaching fellow. The team will focus on their project for one academic year and produce a professional quality final report.

Overall, the Service Learning Program creates a win-win situation for everyone involved. Local organizations get help with an environmental issue while the students involved learn how to produce profession quality material, gain experience, and work with local organizations and agencies to improve the health of our environment.

³ University of Oregon. Service Learning Program. <http://darkwing.uoregon.edu/~ecostudy/slp/>

3 Our Project

3.1 Project Background

The 2003-2004 SLP Illegal Dumping Team proposed a number of possible solutions to illegal dumping on public lands. One of these solutions was an Adopt-a-Forest program, a program where volunteers adopt an area of the forest to keep clean from litter and garbage. This academic year, 2004-2005, the Illegal Dumping Team has been enlisted by the Eugene District BLM to create an Adopt-a-Forest program, design an online illegal dump site reporting system and database, research illegal dumping in the Mohawk Valley and select areas of Lane County west of I-5, and recommend ways for the Eugene District BLM to reduce illegal dumping on their lands. The 2003-2004 Illegal Dumping Team Final Report can be downloaded at:

http://darkwing.uoregon.edu/~ecostudy/slp/illegal_dumping/index.html.

3.2 Our Partner Agency, the Eugene District BLM

This project is supported by a grant from the Eugene District Bureau of Land Management (BLM). The bulk of BLM land nationwide is located in the western United States. In Oregon, 15,715 acres of land is managed by BLM. This is about 25% of the land in Oregon. Specifically in Lane County, BLM land accounts for 297,000, about 10% of the land.

Acres managed by the BLM

<i>Area</i>	<i>Acres</i>	<i>Percent</i>
Oregon	15,715,000	25%
Lane County	297,000	10%

Illegal dumping is a costly issue for the Eugene District BLM and they are looking to us to research the issues and create some solutions.

3.3 Our Project Goals

Our Goals

Our project revolves around illegal dumping on public lands managed by the Eugene District BLM. We are specifically focusing many of our project tasks in the Mohawk watershed. Our main goals are:

1. Research illegal dumping on BLM lands in Lane County.
2. Recommend effective clean up routes for the Mohawk watershed and a specific area of Eugene District BLM land west of I-5.
3. Create a database for BLM employees to record and update information on illegal dumping sites on Lane County BLM land.
4. Create an online reporting system for the public to report illegal dumping on BLM land in Lane County.

Illegal Dumping on Eugene District BLM Land

5. Launch an Adopt-a-Forest program for the BLM land in Drury and Shotgun Creek sub-basins of the Mohawk watershed.
6. Foster public awareness and concern for illegal dumping issues.
7. Research illegal dumping issues in neighboring counties.
8. Research prevention programs nation wide.

Accomplishing our Goals

To achieve goal 1, “research illegal dumping on BML lands in Lane County”, we examined receipts from a massive illegal dump site clean ups performed by the Lane County Youth Services Crew, a group contracted by the BLM to clean up illegal dump sites among other duties. Refer to [Section 5 Coburg Hills Report](#) for more details about the receipt data. We did a physical, inventory of illegal dump sites in the Mohawk Valley, the results of which are also available in section 5 of this report. Additionally, a case study of Lane County was completed. The Lane County case study is summarized along with Linn, Benton, and Douglas County case studies in [Section 8 Case Study Summary](#).

For goal 2, “recommend effective clean up routes for the Coburg Hills and a specific area of Eugene District BLM land west of I-5”, we primarily used maps we created with ArcGIS software to locate dumping hotspots. The raw data for the Coburg Hills, was obtained in the Mohawk Valley dump site inventory and the data for the specific area of BLM land West of I-5 was gathered by a BLM survey crew. These recommendations are in [Section 5: Coburg Hills Report](#) and [Section 6: Public Lands West of I-5](#).

Goal 3, “create a database for BLM employees to record and update information on illegal dumping sites on Lane County BLM land” and Goal 4, “create an online reporting system for the public to report illegal dumping on BLM land in Lane County” are both facilitated through the DumperStumper.com website. This website is intended for use by both the public and the BLM. To read about specific uses and features in DumperStumper.com consult [Section 7.1: DumperStumper.com](#).

Goal 5, “launch an Adopt-a-Forest program for the BLM land in Drury and Shotgun Creek sub-basins of the Mohawk watershed,” resulted in the creation of our Adopt-a-Forest program. This program was modeled after a similar program in Michigan by the Michigan Coalition for Clean Forests. We began recruiting Adopt-a-Forest groups in May 2005. We did presentations to various local groups and included information about DumperStumper.com and the Adopt-a-Forest program. We launched both programs by hosting a clean up event in the Shotgun Creek area. Read more about the Adopt-a-Forest program in [Section 7.2: Adopt-a-Forest Program](#). To learn about our clean up day event see [Section 7.4: May 21st Clean up Day](#).

For Goal 6, “foster public awareness and concern for illegal dumping issues”, we included information about illegal dumping in our public outreach campaign. As

previously mentioned, we introduced the Adopt-a-Forest program and DumperStumper.com to local groups through presentations. Additionally, we sent out press releases to the local news media. Section 7.3: Public Relations Campaign contains detailed information.

Goal 7, “research illegal dumping issues in neighboring counties”, was accomplished primarily through phone interviews with local BLM, USFS, Waste Management, and County employees in Lane, Linn, Benton, and Douglas County. Direct comparisons are difficult to make because each county is unique and experiences different illegal dumping patterns, but much can be learned from each testimonial. See Section 8: Case Study Summary.

Goal 8, “research prevention programs nation wide”, was facilitated by researching books, articles, magazines, and the internet for programs to reduce illegal dumping. A summary of programs and contact information is in Section 9: Prevention Strategies.

4 The Study Area: Mohawk Watershed

4.1 Background

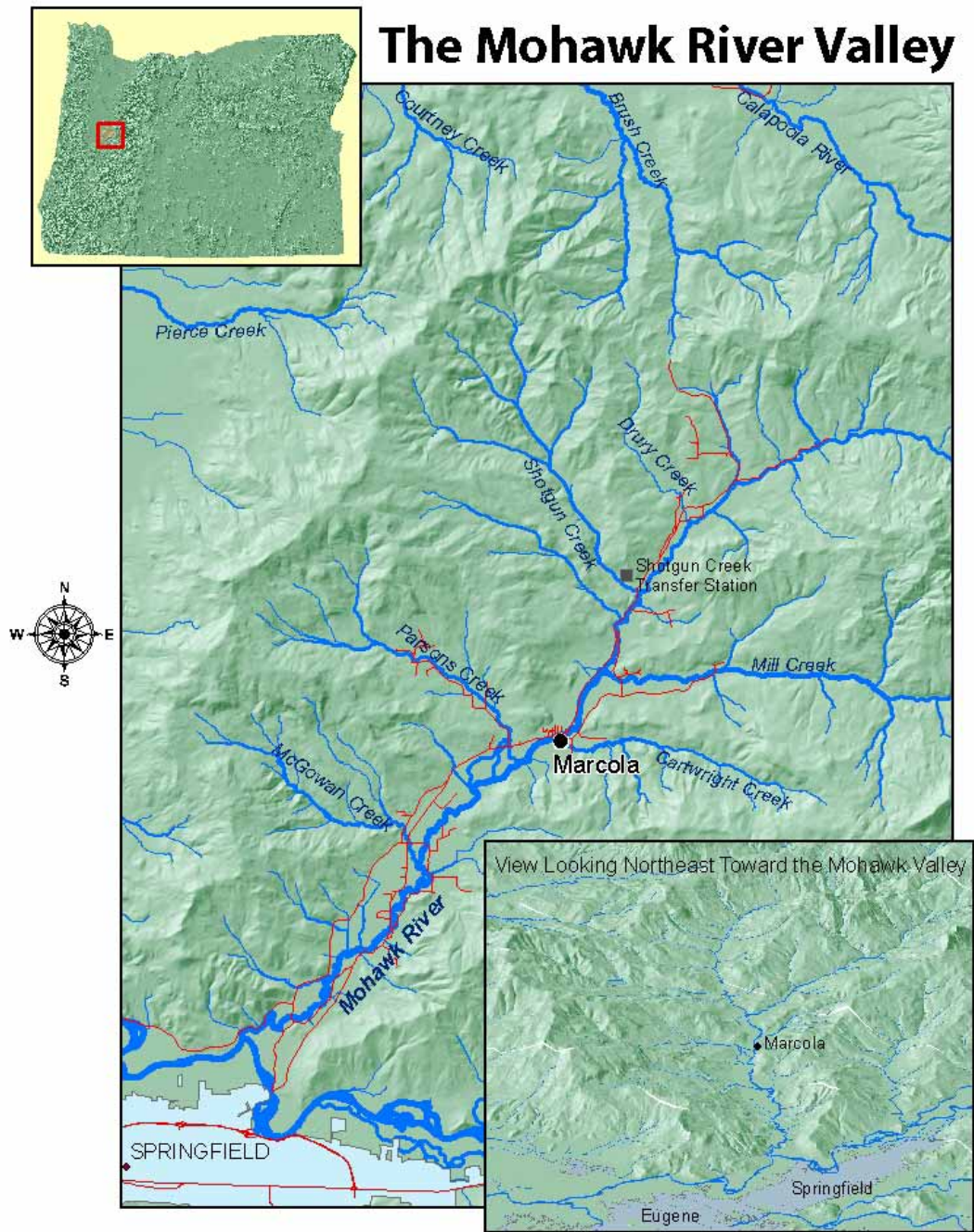
Illegal dump sites can be found throughout the Mohawk watershed. Refer to Map 2 in Section 5.1 The Mohawk Valley. The BLM is concerned with illegal dumping activity in this area. Our goals were to perform a physical inventory of the area, create an Adopt-a-Forest program for part of the area, and recommend effective clean up routes that include the current dumping hot spots.

The Mohawk watershed is nestled in the Coburg Hills northwest of Eugene, Oregon. Marcola, Oregon is located in the center of the watershed. BLM lands are dispersed in a checkered pattern with private land throughout this area. See Map 1 The Mohawk River Valley.

Often used for recreation, the public forested lands in this area have a network of off road vehicle (OHV) trails, hiking trails, and staging areas available for general use and rented for special gatherings. The area is frequently used during hunting season and features a shooting range. The following Coburg Hills report further details the past and current clean up efforts in this area.

Q. What is a watershed?

A. The term watershed described the geographic area that contributes water to a specific water body. This includes rain that directly runs off the land into a river system and water that infiltrates into the ground making a much slower path to a river. Due to variation in topography, watersheds can be of a wide range of sizes. Each watershed must be defined by a specific water body or river reach.



Map 1 The Mohawk River Valley

5 Coburg Hills Report

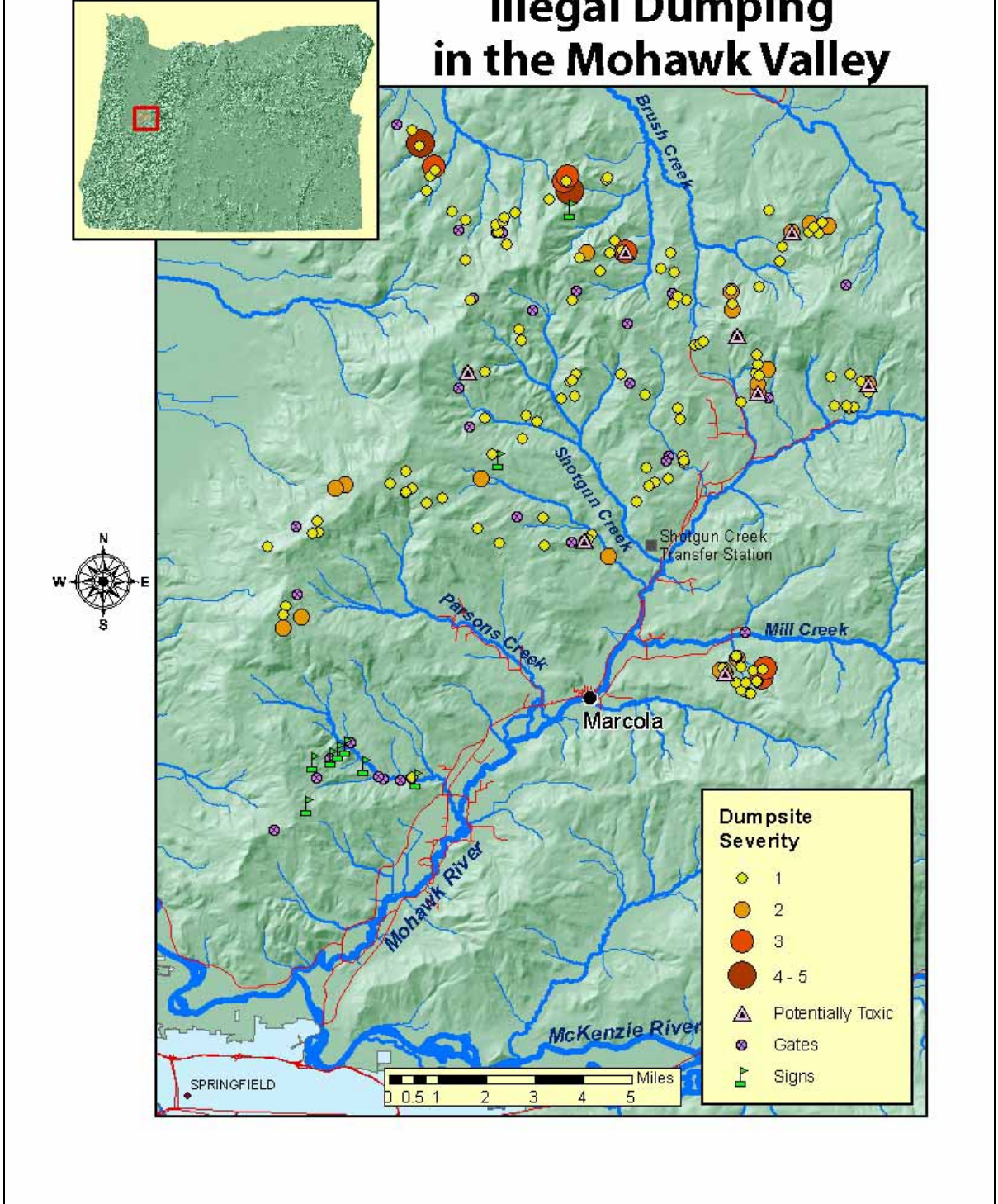
5.1 The Mohawk Valley

The Mohawk Valley, located approximately 15 miles northeast of Springfield, Oregon harbors acres of beautiful forested public lands. The Valley is a checkerboard of public and private lands within the Mohawk River drainage, comprising an area of about 2,000 square miles. While there are several small communities in and around the Mohawk Valley, the town of Marcola - situated adjacent to the Mohawk River - is the largest. The forestlands in the area consist of a variety of Douglas fir and Sitka spruce trees, and are managed largely by the BLM and private timber companies. This area has a rich history of logging and its trees fueled the growth and expansion of many nearby communities.

Currently, the Mohawk Valley is a popular recreation area for outdoor enthusiasts of many interests. There are numerous areas suitable for mountain-biking, hiking, fishing, and an expansive network of OHV trails that cut through the dense forestlands. The fact that this valley is popular for many different types of forest user groups makes it an ideal location for a “pilot-project” for measuring public interest and willingness in helping to combat illegal dumping.

As the hills around the Eugene/Springfield metro area form watersheds that are direct sources of drinking water for many people, proper care and understanding of healthy forest ecology is necessary to sustain the health of our land, and conversely the health of its people. While there are many responsible people who enjoy healthy and productive forest, some others are misunderstanding the value of this vital resource. Illegal dumping in the Mohawk Valley has been a continuing challenge for public land management agencies such as the BLM. While there has been a constant battle against such gross misuses, the BLM needs the help and support of Oregon citizens to try and curb illegal disposal of waste on public forestland.

Illegal Dumping in the Mohawk Valley



Map 2 Mohawk Valley Illegal Dumping Severity, showing current deterrents

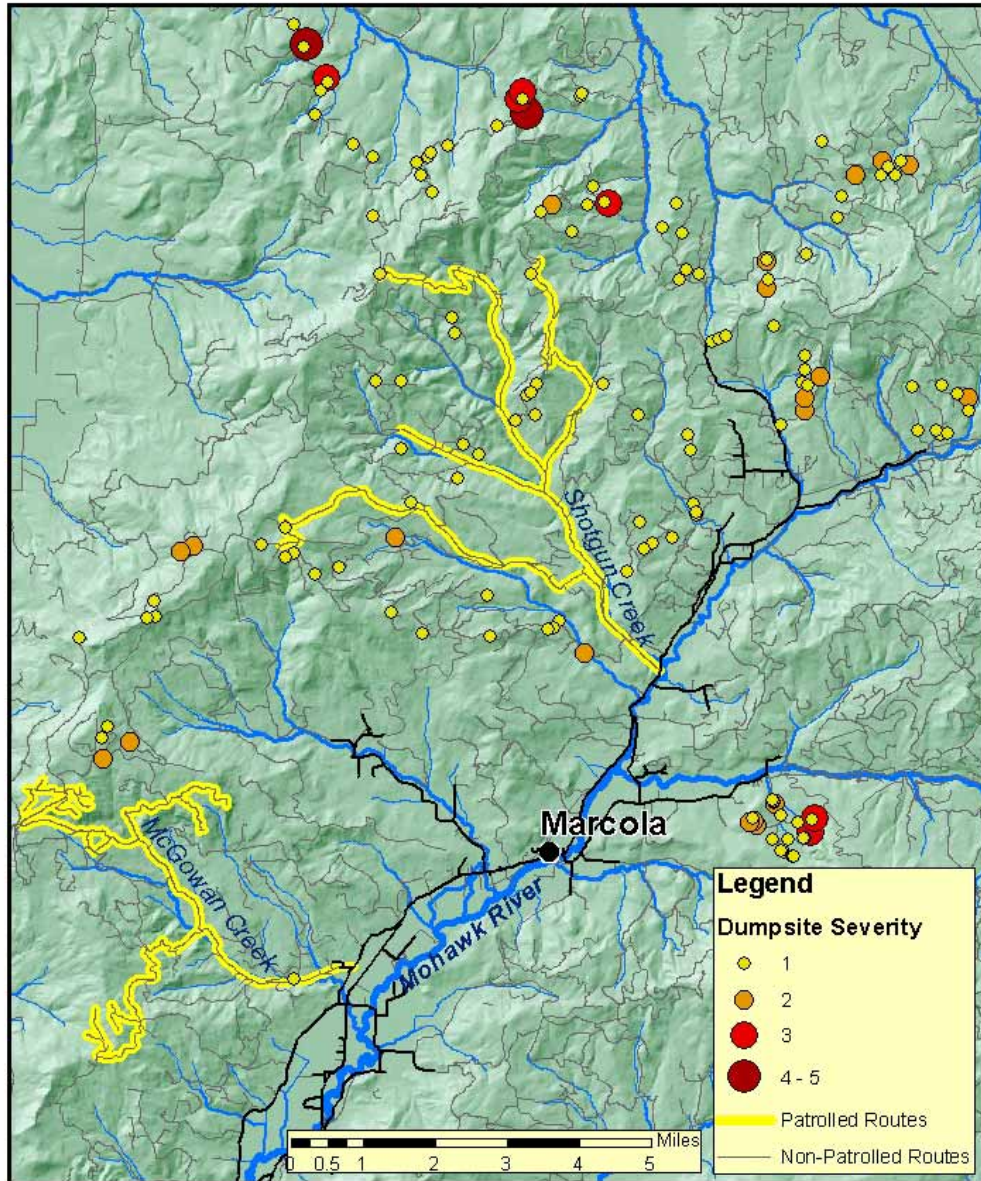
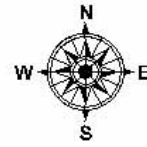
5.2 History of Illegal Dumping in the Mohawk Valley

Clean-up Routes Established

In 2002, the Eugene District of the BLM orchestrated a massive cleanup on BLM land in and around the Eugene/Springfield area. During this cleanup, BLM officials identified the areas that were most affected by this activity and in so doing, established regular trash cleanup routes to combat the issue. The clean up routes are depicted in *Map 3 Regularly patrolled trash routes in the Mohawk Valley*.

In order to more effectively remove illegal dump sites, the BLM has contracted the services of the Lane County Youth Services Clean-up Crew. This crew generally consists of one or two supervisors who oversee a crew of young people earning community service hours for helping in the disposal of illegally dumped trash. After the cleanup routes had been established in 2002, the Youth Services Crew was directed to regularly patrol specific areas within Lane County that seemed to be hotspots for illegal dumping activity. According to Alan Butler, a supervisor for the Lane County Youth Services Cleanup Crew, “We would often get to sites that would take us a whole day to clear. There were thousands of tires, hundreds of appliances and shooting sites.” While the Youth Services Crew cannot remove any dumped materials they deem to be potentially hazardous (i.e. methamphetamine labs and/or equipment), they have been indispensable in removing waste from the forest.

Regularly Patrolled Trash Routes in the Mohawk Valley

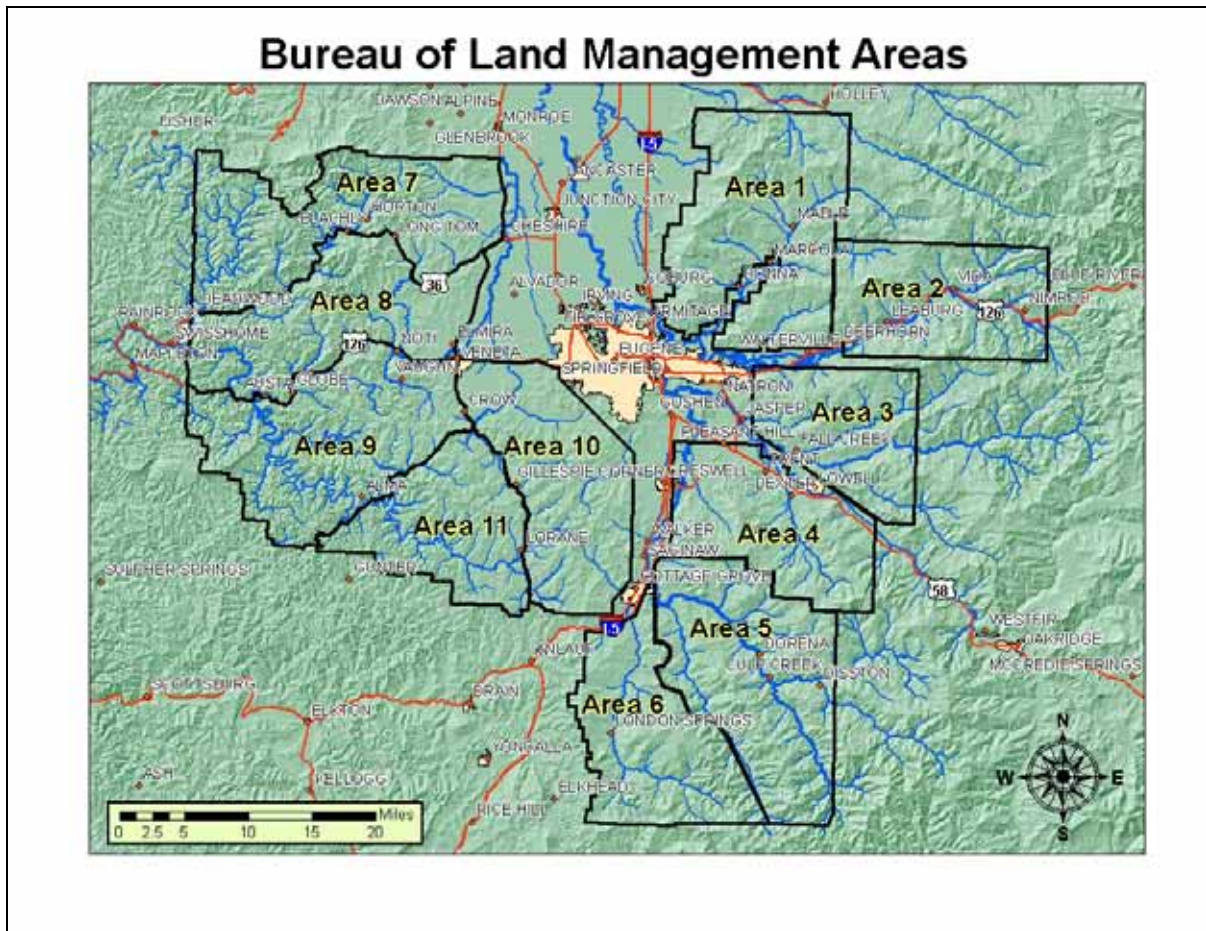


Map 3 Regularly patrolled trash routes in the Mohawk Valley, showing dumpsites not on regular routes

“BLM Areas” Designated

Following the initial cleanup in 2002, the BLM organized their public lands east of Interstate-5 into six separate areas, designated by severity of illegal dumping in the area

and access to regular garbage patrol routes. Theresa Coble designated additional “management areas” west of I-5 in response to a request by our team. There are now 11 dumping “management areas” that cover the majority of Eugene District BLM land (See *Map 4 BLM dump site management areas*). We utilize these areas on our DumperStumper.com website to aid dump site reporters in specifying the locations of the sites they report. For an explanation of DumperStumper.com, see [Section 7.1 DumperStumper.com Website and Database](#).



Map 4 BLM dump site management areas

While these areas help to organize the BLM’s cleanup efforts, the portion of land managed is so large that cleanup crews could frequent only the sections of roads that seem to be dumped on the most. This has helped to clean the most accessible and frequently dumped areas; however there is some fear that it has only prompted illegal dumpers to be more discreet by finding even more remote areas. As Mr. Butler has indicated, “There is concern that because we are only working in the Coburg Hills, the dumpers have shifted their activity somewhere else.”

Dumping Deterrents Erected

Signs were erected during the 2002 cleanup in the hopes that notifying potential dumpers of the consequences of illegal waste disposal will help curb the problem. Deterrents such

as these signs were often vandalized or became targets for shooting practice and their effectiveness remains unclear. According to Mr. Butler, “It took us months to do the initial clean-up, post signs, and organize our program.” While the value of these signs in deterring illegal dumpers is unknown, they are at least making the problem known to all types of forest users.

While most of the roads in this area are open to travel by the general public, there are areas where gates have been closed to prevent access. Presumably, where these gates effectively limit vehicular traffic, they too serve as deterrents to potential illegal dumping activity (See Map 1 for locations of deterrents).

Lane County Youth Services Crew Receipts

As the Youth Services Crew has been actively removing dump sites from public lands around Lane County, they have been taking note of the location and characteristics of dump sites (using a GPS data-logger), as well as collecting transfer station receipts for items they took to authorized dumping areas. After trash has been gathered, the Youth Services Crew then delivers the waste to nearby transfer stations for proper recycling or disposal. By analyzing the amount of waste received in various transfer stations in relation to the cost incurred for disposal, a better understanding of the prevalence of illegal dumping activity in different areas can be realized. It should be noted however, that these receipts reflect only waste that *cannot* be recycled. Recyclable waste is generally free to dispose of and therefore is not indicated on cost receipts. In an analysis of trash received at four Lane County transfer stations, it can be seen that the cost to the BLM of disposing non-recyclable waste can be relatively high. See *Figure 4 Costs incurred for legal disposal of waste cleaned by the Lane County Youth Services Crew*.

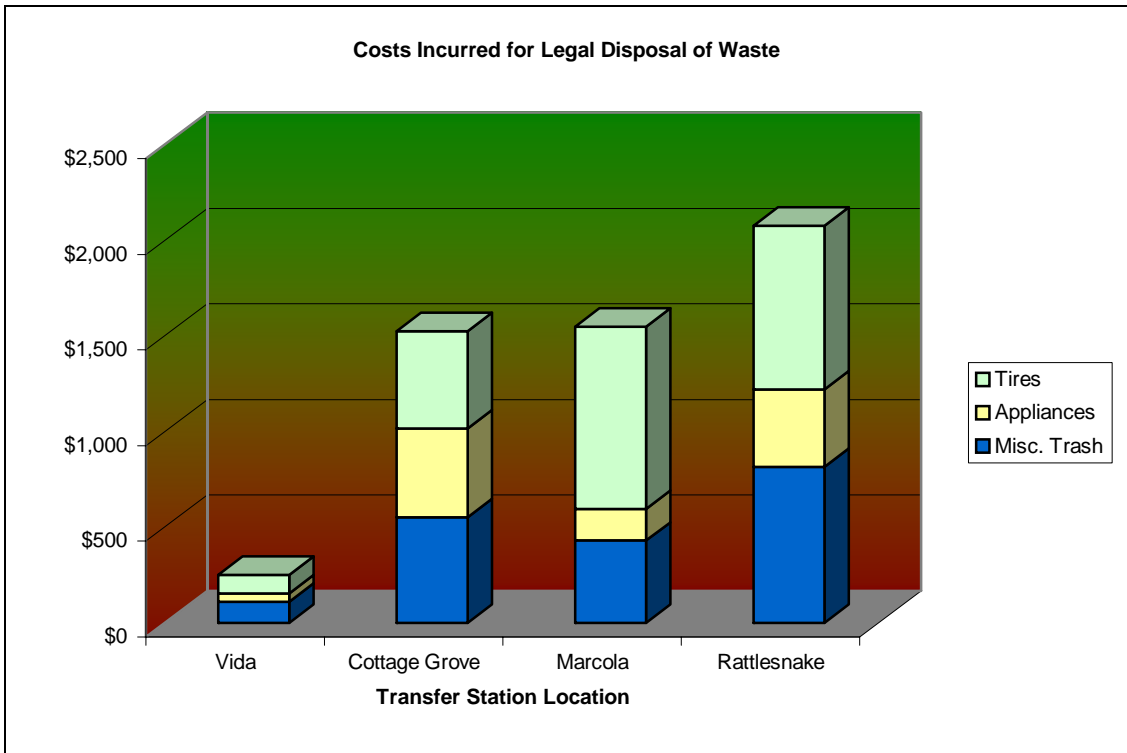


Figure 4 Costs incurred for legal disposal of waste cleaned by the Lane County Youth Services Crew

This chart represents the cost of legally disposing waste (indicated by more than 500 hundred receipts) that was collected between the years 2002 and 2004 by the Lane County Youth Services Crew.

As Figure 4 shows, the transfer station in Rattlesnake (west of Oakridge, on Highway 58) has received the most significant portion of items cleaned up by the Youth Services Crew. This area is just east of Lookout Point Reservoir and is near acres of popular public lands and recreation areas. The proximity of this region to widely used recreational sites may account for the relatively high amount of waste.

While the proportion of different kinds of trash received at the four transfer stations varies, it can be seen that tires represent a considerable part. In Marcola specifically, tires account for 62% (\$954) of the total cost for legal disposal of trash collected, while in Vida, Cottage Grove, and Rattlesnake tires represent 38%, 33% and 41% (respectively). This trend showing a high proportion of tires can be seen in the data gathered during our inventory of dump sites in the public lands around Marcola. (See Figure 5).

5.3 Current Clean-up Efforts

Data-logging Dump sites

Following the placement of regular trash patrols, Lane County's Youth Services Crew, led by Alan Butler and Matthew Sterner have been diligently patrolling the forest roads in search of illegal dump sites. Not only are dump sites being cleaned when located, but geographical position and various descriptive characteristics are being recorded in a Trimble GPS data-logger. The characteristics for this data-logger were selected by the 2003-04 Service Learning Program (SLP) Illegal Dumping Team from the University of Oregon, and were identical to the characteristics that we included in our inventory of dump sites. This information has also been archived in an attempt to better understand the pattern of illegal dumping in the public forestlands around the Eugene/Springfield area.

5.4 Physical Inventory of Dump sites

Methodology

In order to better understand the patterns of illegal dumping, our team conducted a physical inventory of all illegal dump sites on public lands *not* patrolled by the BLM or the County Youth Services Crew. By patrolling areas that were not part of the regular patrol, we were locating sections of land where illegal dumping had become especially prevalent.

Before we began our inventory of dump sites, we spent some time familiarizing ourselves with a Trimble data-logger during a ride-along with the Lane County Youth Services Crew. Using that same data-logger, we spent a total of 48-hours, or four dedicated Saturdays in the rainy months of January and February, locating all dump sites we could find on BLM land in the study area. To ensure that we spent our time wisely and covered the largest amount of forest roads possible in the time given, routes had to be established that would prioritize connective roads, minimize backtracking, and avoid passage through private forestlands as much as possible. By carefully studying the expansive network of logging roads, we were able to map out the best routes to take.

Using a Jeep on loan from the state motor pool, we slowly inspected areas that were likely candidates for illegal dump sites. Generally, these areas consisted of roadside embankments, ditches, jug-handles (sections of road where the shoulder is substantially wider), and of course, dead-ends. As our familiarity with the area increased, we were able to better determine where illegal dump sites were located. Many times dump sites were found by noticing areas of the road where tire tracks veered suspiciously close to the edge of the road - indicating an area where a vehicle likely backed up to the embankment and dumped trash out the back. In some places, dump sites were so densely

concentrated that it made more sense to walk along the shoulder and scan the forest undergrowth on foot, rather than look from the Jeep.

When a dump site was located, not only did we use the GPS to indicate its location, but also to enter various characteristics that could be helpful in determining patterns of illegal dumping. Some of these characteristics were estimated size of dump site, severity, incidence of various items (e.g. tires with and without rims, large appliances, spent ammunition, electronics, carcasses, potentially hazardous materials, fluorescent lights, and more), proximity to a stream, whether it appeared to be a site of multiple dumping events, as well as the estimated source of the dump site.

Many sites contained items that gave clues as to whether they might have originated from a residential, commercial, or recreational source. We were able to reasonably determine the source of waste by taking note of such items as grocery bags, food packaging, clothing (indicating residential waste), plywood, shingles, tarpaper, cement (indicating commercial waste), and empty bottles, cans, food packaging (indicating recreational waste). Appendix 10.1 is a datasheet that shows all of the data we collected for dumpsites we inventoried.

5.5 Findings

Dump Site Occurrence

During the inventory of the Mohawk River Valley, we recorded a total of 148 dump sites using the data-logger. Map 2 shows the locations of dumpsites and their severity. Generally, it appears that most of these dump sites are located near the top of drainages, on roads that are relatively isolated and some distance from the main road. This is likely because illegal dumpers realize that their actions are in fact illegal and are not something that they would prefer anyone to witness.

Dump Site Composition

While we found a variety of materials within the dump sites inventoried, there are a few items that were repeatedly found.

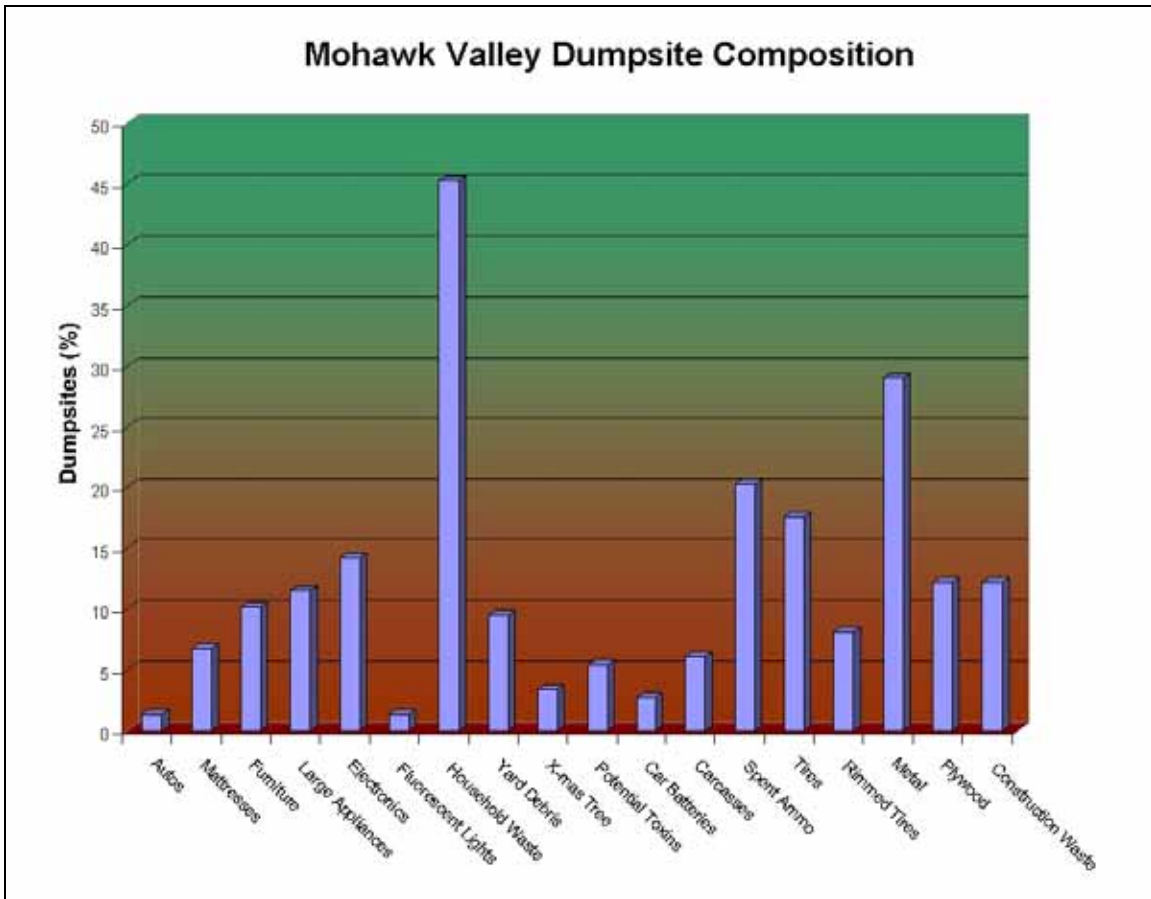


Figure 5 Mohawk Valley dump site composition

This chart shows the frequency at which various items were found in all 148 dump sites. To be clear, the chart shows that about 45% percent of *all dump sites found* contained household waste.

Severity

One of the characteristics of dump sites that we were sure to take note of was estimated severity (see *Map 2 Mohawk Valley Illegal Dumping Severity, showing current deterrents*). In the interest of obtaining data that was as consistent as possible, we designated severity using the scale (1 to 5) used by the Youth Services Clean-up Crew. During our initial training in the use of the data-logger, we were given an idea of what severity designation different dump sites deserved. In this way, we entered our data as closely as possible to the manner in which the Youth Services Crew had been.

While all of the dump sites we found were an ugly, stark contrast to the beauty of the forest, we rarely designated any site higher than a 1 or 2. As *Figure 6 Mohawk Valley dump site severity* shows, the severity of most dump sites fell with in the designation of 1.

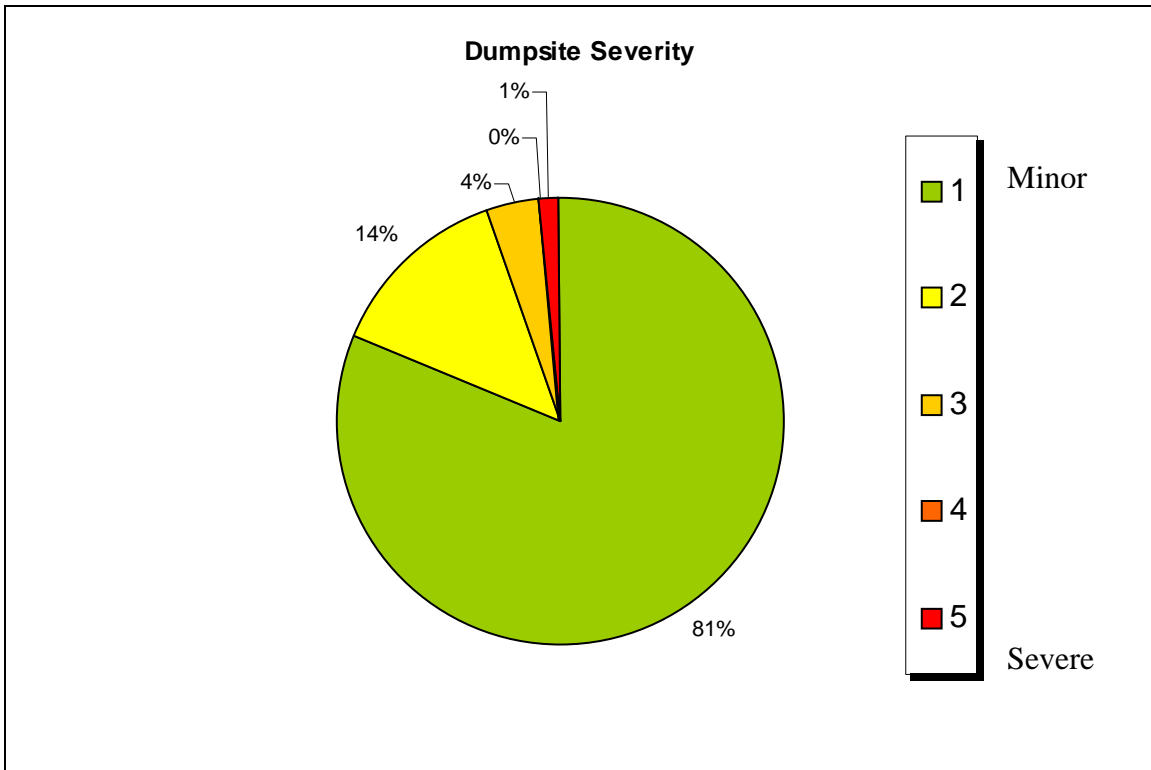


Figure 6 Mohawk Valley dump site severity

120 sites were designated as a severity of one, 20 sites as a severity of two, 6 sites as a severity of three, 0 sites as a severity of 4, and just 2 sites as a severity of 5. On this scale, 1 is considered minor and 5 is severe.

Spent Ammunition

One of the items most commonly found in the inventoried dump sites was spent ammunition. While some of this may be linked to hunting or poaching, the majority appeared to have ties with sites where the waste appears to be primarily of recreational sources. Recreational sites were primarily identified by the presence of cans and bottles, food wrappers and containers, and other items that may indicate recreational activities. Of the 30 sites that contained spent ammunition, 18 (60%) of those were indicated to be of a recreational source.

When this percentage is compared with the percentage of recreational sites of *total* dump sites inventoried, a possible relationship between shooting and partying appears: Of all 148 dump sites inventoried, only 29 (20%) were indicated to be of a recreational source (see Graph 4). This difference in percentage suggests a positive correlation between the presence of spent ammunition and dump sites that were of a recreational source.

It should be noted that while a relatively small percentage of dump sites inventoried contained spent ammunition, many dump sites showed signs of shooting. Many sites contained items – especially electronics, appliances, and plywood - that had been used for target practice by gunmen in the area.

Illegal Dumping and Transfer Station Fees

The reasons why people dump their garbage illegally are not completely understood and likely vary from one perpetrator to the next. One factor that likely leads many people to dump their waste illegally is the fees that are attached to dropping an item off at a transfer station. As can be seen in the fee-structure chart below (Table 1), proper disposal of waste of course costs money; for many people, paying to may be more than they can afford and when isolated and easily accessible forestlands are available to discreetly dump trash instead, many choose to do just that. However, a significant portion of trash is recyclable and often free to dispose of legally, suggesting that cost is not the only factor in leading people to illegally dump trash.

As can be seen from Table 1, some of the items that have fees attached (specifically household waste, tires, construction waste, and appliances) were also some of the commonly found items in our inventory.

When speaking to community groups about our project, many people suggested that the limited hours of operation of the transfer stations may be as or more important than dumping fees in inspiring people to dump their garbage illegally. **Locals who live in the general vicinity of the Shotgun Creek transfer station suggested that many people intend to dispose of their garbage illegally but end up dumping it on the roadside when the transfer station is closed.**

Table 1 Fees associated with legal disposal at Lane County transfer stations

Fees Associated with Legal Disposal at Lane County Transfer Stations	
Household Garbage	
Up to 3 cans, 110 gallon max	\$7.00
Over 3 cans to 3 cubic yds	\$13.00
Over 3 cubic yds	\$5.00/cubic yard
Tires	
Tires > 17" rim diameter	\$2.00 each
Tires 17"-24" rim diameter	\$6.00 each
Tires 24"-30" rim diameter	\$20.00 each
Tires > 17" rim diameter, with wheel	\$3.00 each
Tires 17"-24" rim diameter, with wheel	\$10.00 each
Yard Debris	
Over 3 cans to 3 cubic yds	\$10.50
Over 3 cubic yds	\$4.00/cubic yard
Appliances	
Appliances containing refrigerants	\$15.00
White goods with electric motors	\$15.00
Propane Tanks	
Up to 10 gallon capacity	\$4.00 each
Over 10 gallons up to 15 gallons	\$10.00 each
Over 15 gallons up to 25 gallons	\$25.00 each
Construction/Demolition Debris	
Per cubic yd	\$7.00

Tires

Tires are one item that is likely dumped because of the charge involved in disposing of them legally. In our dump site inventory, we found a total of 91 tires without rims. The total fees associated with legally disposing of this amount of tires ranges from \$182 to

\$546 to \$1,820 (for tires with diameters less than 17 inches, between 17 and 24 inches, and between 24 and 30 inches, respectively). While we did not measure the diameters of the tires we found, in general most were likely smaller than 17 inches; tires of mid-sized vehicles and small trucks.

Although we didn't find as many tires with wheels as without, there was still a total of 24 located in the dump sites we inventoried. Using the same kind of cost analysis, this would add up to a total cost of \$74 to \$240.

These tires were not, of course disposed of all at once, however it can be seen how many people who may be seeking to dispose of any number of tires might see how the cost could add up. When there is secluded and easily accessible forestland nearby, the temptation is often too great to dump illegally.

Construction Waste

Another item that was fairly commonly dumped (and is likely linked to the fees attached to legally disposing of the item) is construction waste. Twelve percent (or 17/148) of the dump sites inventoried contained what appeared to be construction waste (plywood, carpet rolls, two-by-fours, drywall, shingles, etc.). A possible explanation for the prevalence of this item is the way in which contractors and construction agencies deal with the disposal of their waste. According to Alan Butler of the County Youth Services Clean-up Crew, often times contractors will give workers cash to take waste from a worksite to a transfer station. In an area such as the Mohawk Valley, where a transfer station exists in such close proximity to isolated and easily accessible forests, it is quite likely that the worker will sometimes keep the money for himself and discreetly dispose of the waste illegally. While this is not necessarily the source of all construction waste, it is a likely possibility.

Metal

As Graph 3 shows, metal was the second most prevalent item in all dump sites inventoried. The types of metal found varied from car parts and panels, tangles of wire, sheet metal, and more. As is true with most of the waste we found, much of the metal had been used for target practice and occasionally had targets drawn on. Presumably, the stripping of a possibly stolen car was the source of some of the metal we found. While cars were a rare sight (we found only one), there were a number of dump sites that showed evidence of stripping of auto parts. Characteristics such as vehicle hoods, door panels, inside panels left on the ground, as well as missing stereos, wheels and hubcaps all presented possible evidence for the stripping of a stolen car.

Electronics

Electronics were relatively common in the dump sites we surveyed. Many of these items were televisions, computers, computer monitors, stereos, small appliances, and more. Again, as is true with much of the trash, most of the electronics were shot or blown-up in some other way.

Hazardous Waste

Unfortunately, potentially hazardous waste was found at 9 (6%) of the 148 dump sites inventoried. While this is a small percentage, this type of waste is especially dangerous to the health of the forest and the wildlife within it. Much of this type of waste consisted of what might have been discarded materials for methamphetamine labs, signified by garden hoses tied off at the ends, various chemical containers, home-made funnels and liquid cooling devices, among other materials. One such site was possibly a recently active lab, as there were a series of barrels connected by a line of hose between each. Although not all of the hazardous waste was evident of methamphetamine production (we did find some rusted lead paint cans), the dangers that these materials pose to the health and purity of the groundwater in the area should be a concern. Additionally, hazardous waste contained in some dump sites limits the public'

Illegal Dumping and Transfer Station Proximity

Another issue regarding disposal of waste in relation to transfer stations is access to areas designated for legal disposal of waste. It has been suggested that perhaps areas with the most severe problems of illegal dumping are also areas that are relatively distanced from transfer stations. While this may be true in some regions, the location of the Shotgun Creek Transfer Station, right at the base of the Shotgun Creek drainage refutes this argument for illegal dumping in the Mohawk Valley (Map 2; p. 15).

In fact, seventeen (12%) of the dump sites we found were within this drainage, indicating that these illegal dumpers would most likely have driven right past a site for legal disposal of waste. Further, it is likely that people may not know about the fees incurred with disposing of waste legally. So, while they may not have driven to the area with the intention to illegally dispose of their garbage, the option to dispose of it for free in the forest may win over the desire to dispose of it legally.

Primary Source of Waste

While it was at times difficult to determine what the primary sources of the dump sites we inventoried were, some sites contained characteristics that allowed us to indicate with some confidence the source of the waste. As can be seen in *Figure 7 Primary source of dump sites in the Mohawk Valley*, the majority of sites inventoried appeared to be of a residential source.

Although this chart indicates that only 1% of dump sites surveyed were primarily roadside litter, this is not to say that it was necessarily an uncommon sight. This small percentage accounts for the few dump sites we found in which litter was scattered along the road in such consolidation that we determined it merited an entry in the data-logger. As we quickly realized in our inventory of dump sites, litter (specifically sparsely scattered bottles, cans, wrappers, paper, etc.) was so common that to enter each individual item would have been absurdly detailed.

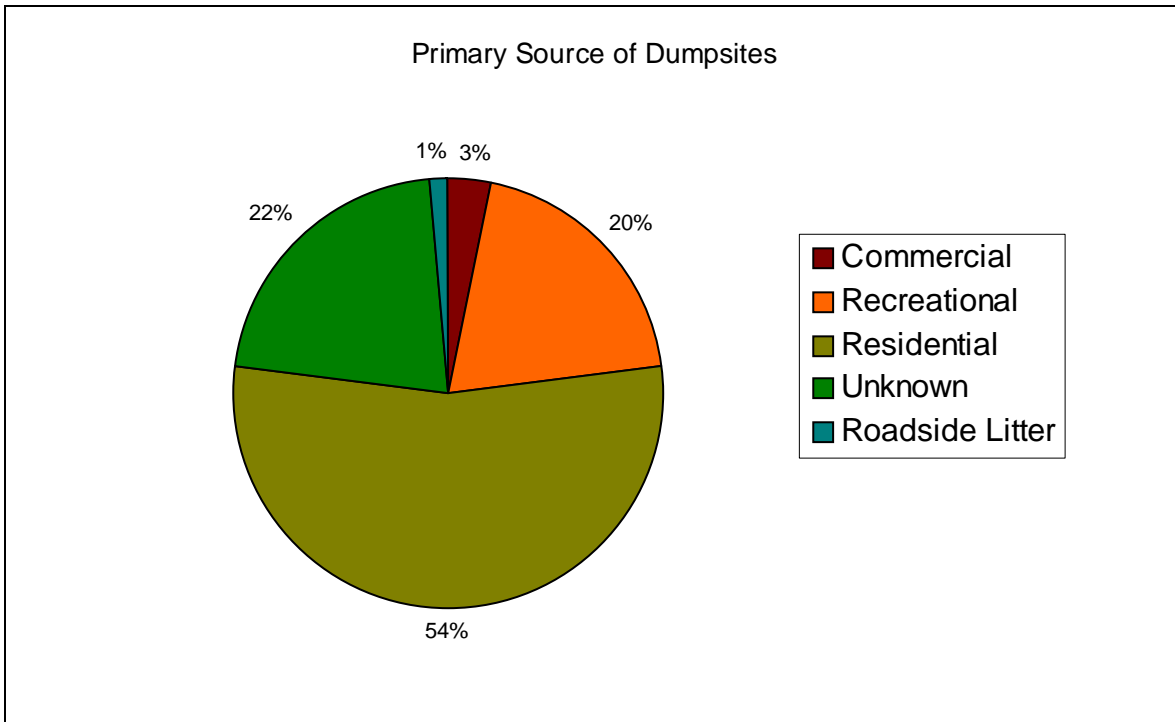


Figure 7 Primary source of dump sites in the Mohawk Valley

Proximity to Dead-ends

A trend that was rather noticeable during our dump site inventory is the proximity of dump sites to the end of roads. Of all 148 dump sites located, 51 (34.45%) were found to be within 500 feet of a dead-end. The reasons for this are likely that these are areas where passage is essentially limited to one direction. Isolation is further achieved by having only to worry about onlookers spying illegal dumping activity from one direction, rather than from two.

5.6 Recommendations

Routes: Courtney Creek and Brush Creek

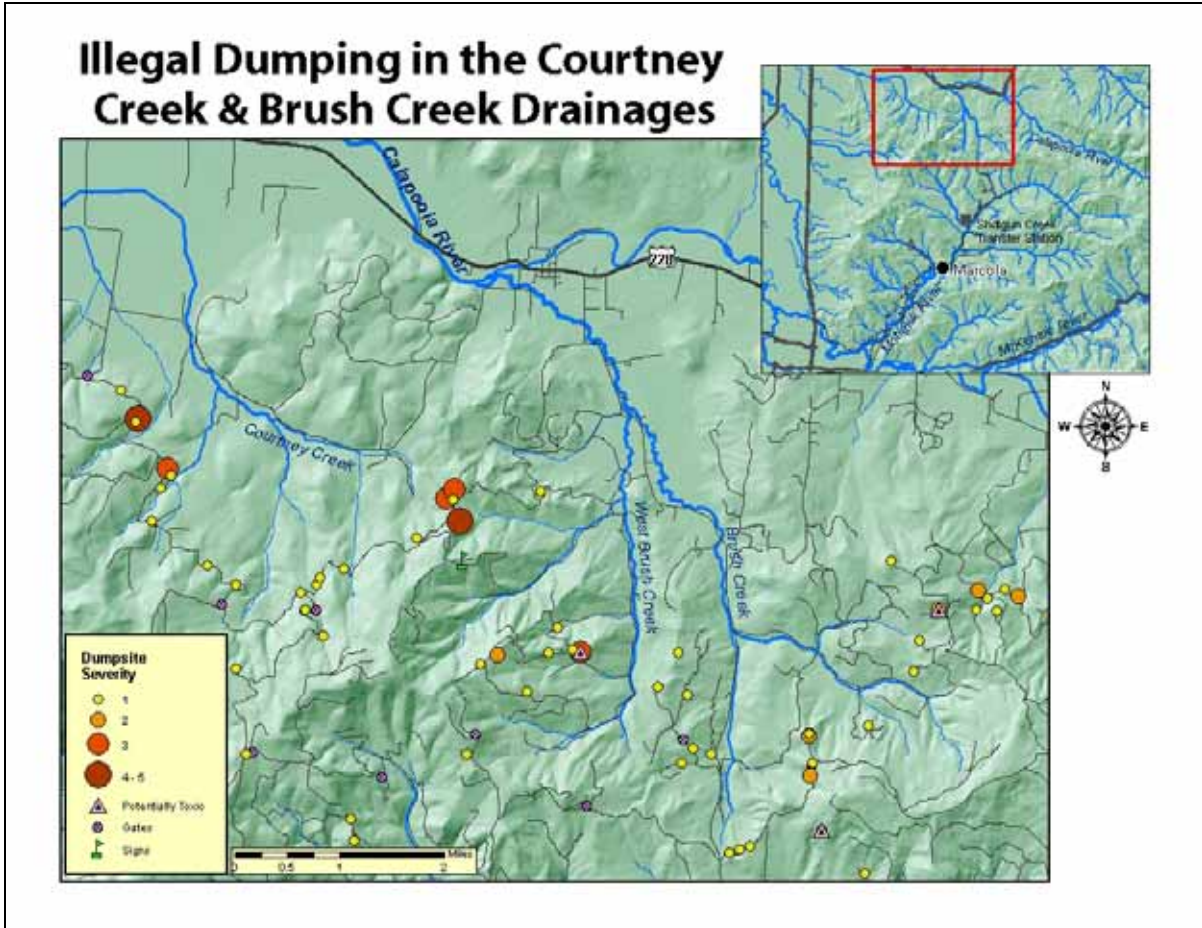
While it appears that the current regularly patrolled routes by the County Youth Services Crew are concentrated in the largest drainages of the Mohawk Valley – Shotgun and McGowan Creek – there are other areas that deserve attention.

Just north of the Mohawk River drainage, some of the areas that seem to be suffering from some of the most severe illegal dumping activity are the Courtney and Brush Creek drainages (See *Map 5 Illegal Dumping in the Courtney Creek and Brush Creek Drainages*). While these watersheds can be accessed through the forest roads in the Mohawk Valley, it would seem likely that most of the illegal dumping activity there is originating from dumpers traveling from Highway 228, near Crawfordsville. It is in these areas where both dump sites that we designated a severity of 5 were found, four of

the six dump sites with a severity of 3, and six of the twenty dump sites with a severity of 2 (one of which contains potentially hazardous material).

Accessing this area from Marcola Road (as we did) would likely not be feasible for the regular patrol as travel is slow along the winding roads to enter into the drainages.

Rather, it might be prudent to add this as a patrol route, but access as the dumpers likely do: from Highway 228.



Map 5 Illegal Dumping in the Courtney Creek and Brush Creek Drainages

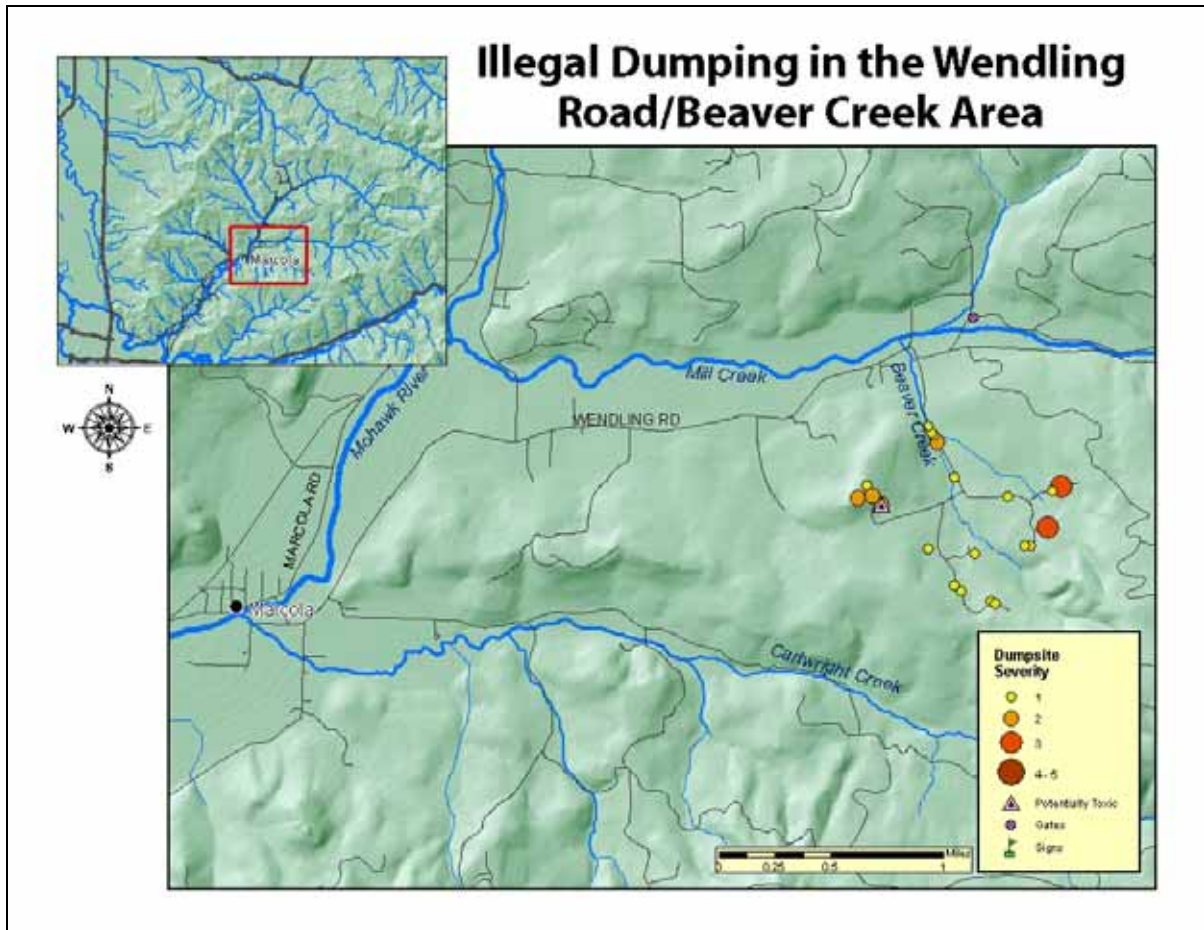
Routes: Wendling Road/Beaver Creek

Although this area is geographically small, the dump sites here were so dense that in order to ensure that no dump sites were missed, we chose to walk alongside the road for much of our inventory of the area. This area of about one square mile contains 21 of the 148 dump sites inventoried (14.1%); two of which have a severity of 3, four a severity of 2 and one containing potentially hazardous waste. This is an extremely accessible area from Marcola Road; it is only 3.5 miles away on a mostly paved road. As this is such a geographically small area, it might be feasible to add this area to the regularly patrolled routes. See *Map 6 Illegal dumping in the Wendling Road/Beaver Creek drainage*.

Deterrents

Although it is unknown whether signs are truly deterring illegal dumpers from continuing to dump in the Mohawk Valley, their presence at the very least alerts other forest users of the problem. Further, posting signs that advertise the website, www.DumperStumper.com will raise the public awareness level of illegal dumping activity, while also giving people an outlet to actively take part in the fight to end illegal dumping. We created DumperStumper.com as part of our dumping prevention program. It is explained in further detail in [Section 7.1 DumperStumper.com Website and Database](#). From the dumper's point of view, signs that advertise the efforts that others are making to combat illegal dumping may prompt them to reconsider disposing of trash on public lands. By slowing the initial onslaught of new dump sites, fewer ones are likely to appear since people are most likely to dump in areas that are already littered upon.

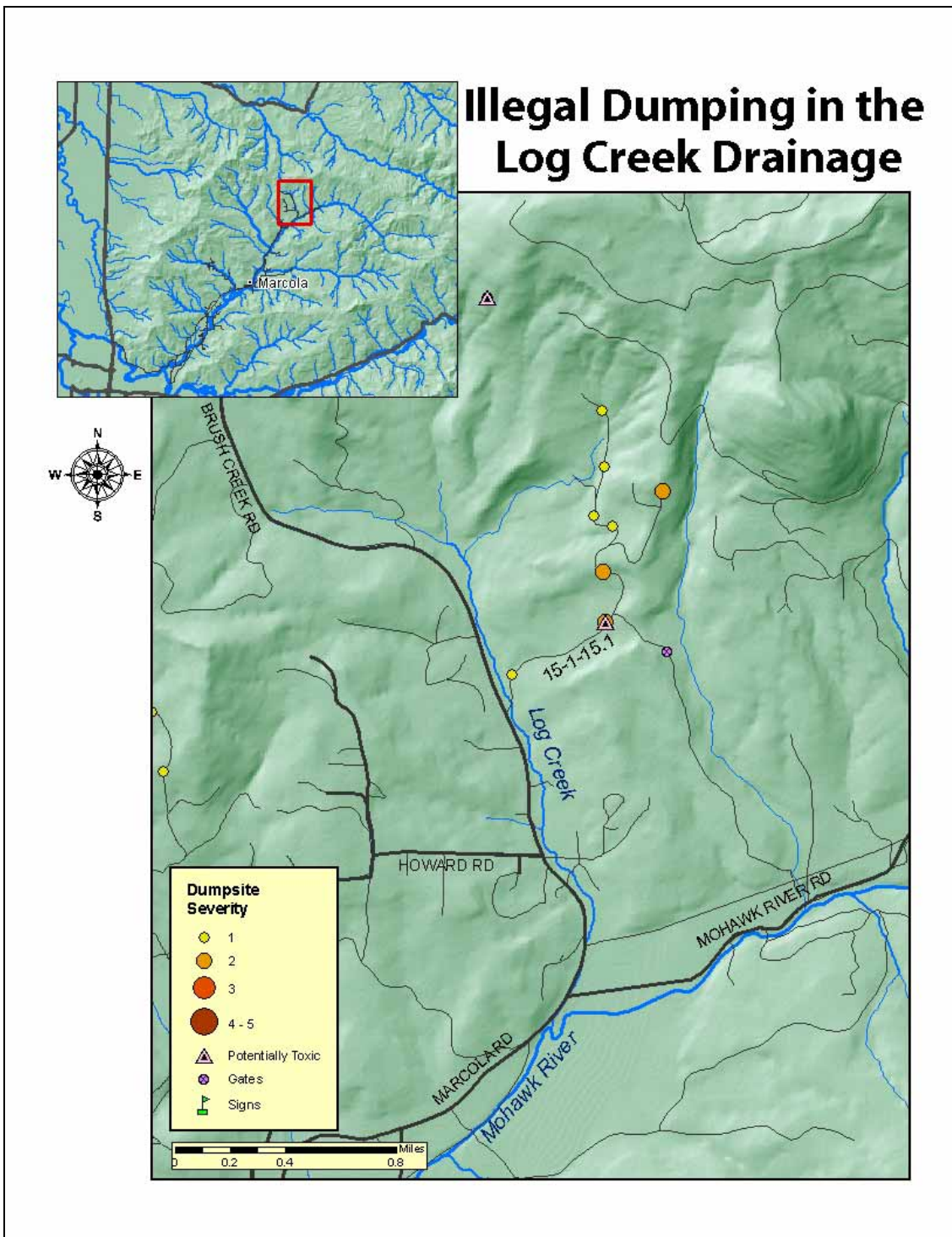
As a preventative measure, installation of gates in some of the most problematic areas should be considered. While our data shows no obvious correlation between signs and locations of dump sites, gates are shown to be a much more effective deterrent. Areas where there is one access road that then splits into a web of short, non-connective roads would be the most deserving candidates for such preventative measures as gating. A perfect example of this would be the Wendling Road/Beaver Creek area. This area is geographically small and accessed by one main road.



Map 6 Illegal dumping in the Wendling Road/Beaver Creek drainage

Another area that would benefit from gating is road 15-1-15.1 in the Log Creek drainage in the northern portion of the Mohawk Valley. This area of about .1 square miles is heavily affected by illegal dumpers and was found to contain 8 dump sites, one of which contained potentially hazardous material. This road and the roads that branch off of it, do not connect to any others, are relatively short, and are almost entirely within BLM land (a very small portion of it appears to extend to land zoned private industrial). While there are two roads leading to the area, the eastern access road is already gated.

Of course, gating a road is the most likely preventative measure to deter illegal dumpers, yet it does close access to other, more responsible forest users. Because of this, it may be beneficial to consider gating only those areas that are of relatively small geographic areas, so that pedestrians can still access the area.



Map 7 Illegal dumping in the Log Creek drainage

5.7 Summary of Mohawk Valley dumping research

We uncovered a wide variety of dumped materials spread over a large geographic area in our inventory of dumpsites in the Mohawk Valley. It is difficult to discern why people

dump their garbage illegally, though it is probably a combination of transfer station fees and hours, convenience, and the fact that some dumpsites contain items for which there are no legal disposal items (e.g., those associated with methamphetamine labs and other criminal activities).

We believe that by increasing the involvement of local community members in an active fight against illegal dumping we can create prevent some future dumping. To leverage local support in the fight against illegal dumping, we created DumperStumper.com and the Adopt-a-Forest program. These programs are described in detail in Section 7, which begins on p.45.

6 Illegal Dumping on Public Lands West of I-5

6.1 Methodology

We looked at data from an illegal dump site survey that occurred on BLM land in Lane County west of I-5 in the summer of 2004. The surveyors filled out paper illegal dump site report forms. We received copies of these forms along with a GIS layer of the dump sites surveyed. To prepare this data for analysis, we entered it into a database, recording all characteristics and notes listed on the original forms. From that point we were able to graph the composition and average size of dump sites, map the location and size of the dump sites, and devise recommended clean up routes based on the current dumping hotspots in the area.

6.2 Our Goals

The survey conducted in 2004 noted 155 illegal dump sites on public BLM lands in Lane County townships 15s,16s,17s,18s,19s, and 20s. Refer to map 3 for dump site locations. In an effort to help reduce and prevent illegal dumping on these lands west of I-5, we have looked at the illegal dumping patterns in the 2004 surveyed areas of the Eugene District BLM managed lands. Our main goals are to use this information to devise recommendations for Forest Service Work Crew dump site routing, and recommend suitable locations for signs.

6.3 The History

While no formal cleanup routes currently exist for BLM lands west of I-5, the Forest Work Service Crew has been cleaning up known dump sites found in the 2004 illegal dump site survey west of I-5. According to Teresa Coble, Eugene District BLM employees, over the past seven months, the Forest Work Service Crew has cleaned the areas (by township and range) 16s-6w, 16s-7w, 17s-7w, 18s-8w, 19s-9w, and 20s-4w. They are placing preventative signs in the areas they found the most severe dump sites.

6.4 Data Collection

A BLM survey crew conducted an inventory of illegal dump sites in a specific area of public lands west of I-5. Details such as dump site size, composition, and location were recorded and the affected areas were tagged with colored ribbons to ensure easy relocation. The record form was created by the Service Learning Program during the

summer of 2004 to capture key characteristics of each dump site. In total, the surveyors found 155 illegal dump sites. This figure includes both sites with scattered litter and illegal dump sites (scattered litter sites were interpreted as illegal dump sites by some surveyors).

6.5 Data Entry and Analysis

In January 2005, we began to enter the data from the dump site record forms onto a database. We then entered the data into a mapping program.

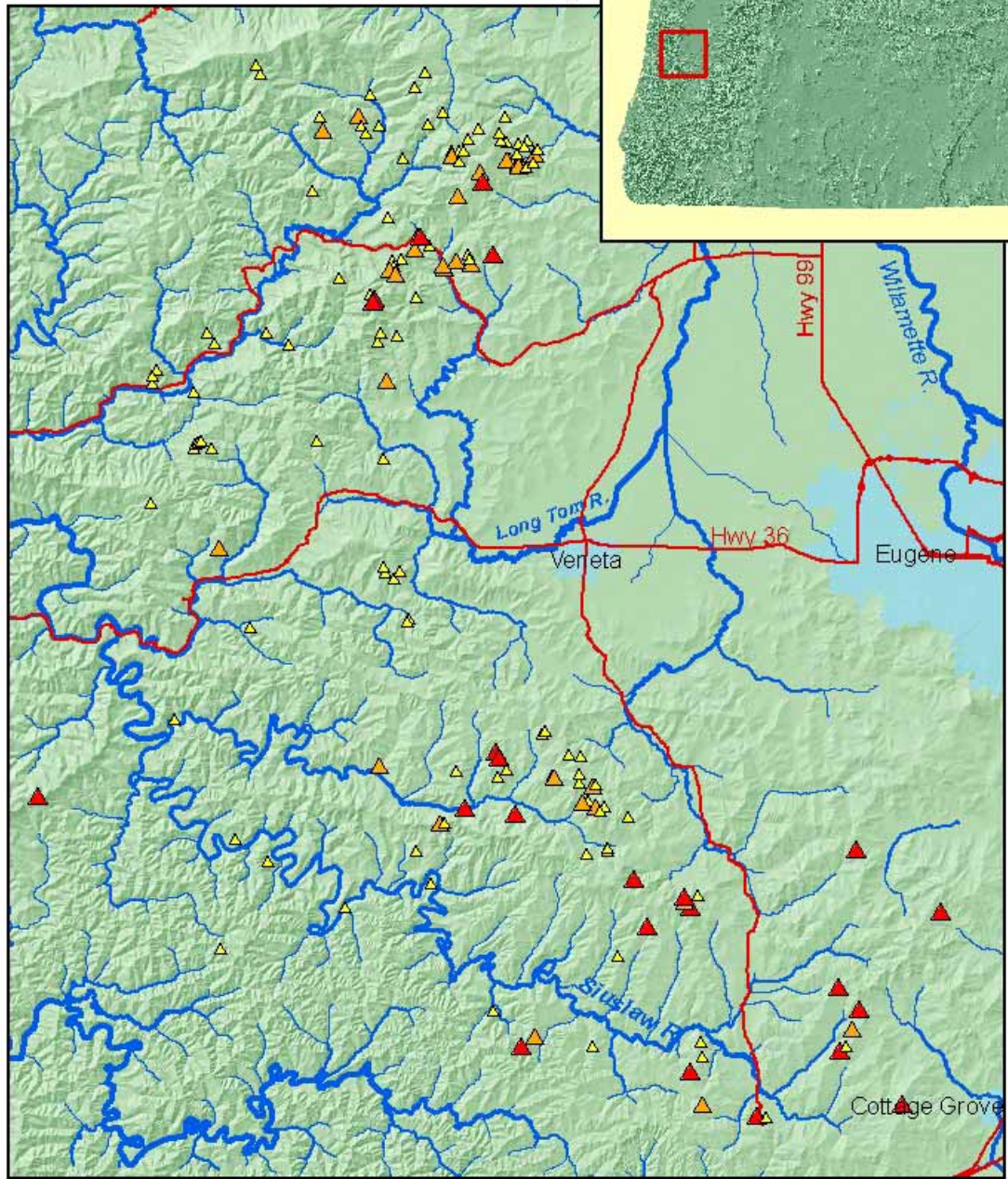
We used the data to create maps displaying the severity of each location, and the size of sites in addition to the geographic locations of the dump sites found (See **Error! Reference source not found.**). The maps, in addition to knowledge we have gained from researching illegal dumping patterns, have supplemented our future recommendations for combating dumping in this area.

The dump sites are clustered in two general groups, one to the north and one to the south. This natural break in north and south dump site clusters has led us to our recommendation for future Forest Work Service Crew routing. Map 9 shows the northern cluster of dump sites and **Error! Reference source not found.** shows the southern cluster of dump sites.

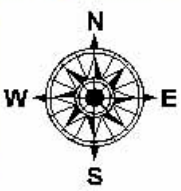
We learned from the survey data that most dump sites, 66%, in this area are smaller in size, 0-5 garbage bags worth. The following pie chart, Figure 8 shows the percent of dump sites that fall into each size category.

Additionally, the items that were most frequently found in the dump sites were household garbage, tires, appliances, and metal. Household garbage was by far the most frequent item appearing in 92% of the dump sites surveyed in Lane County west of I-5.

Illegal Dumping in the Western Willamette Valley



Dumpsite Amounts	
△	0-5 Bags
▲	5 Bags-Pickup Truck Load
▲	Pickup Truck Load and Larger



Map 8 Illegal dump site size in the Western Willamette Valley

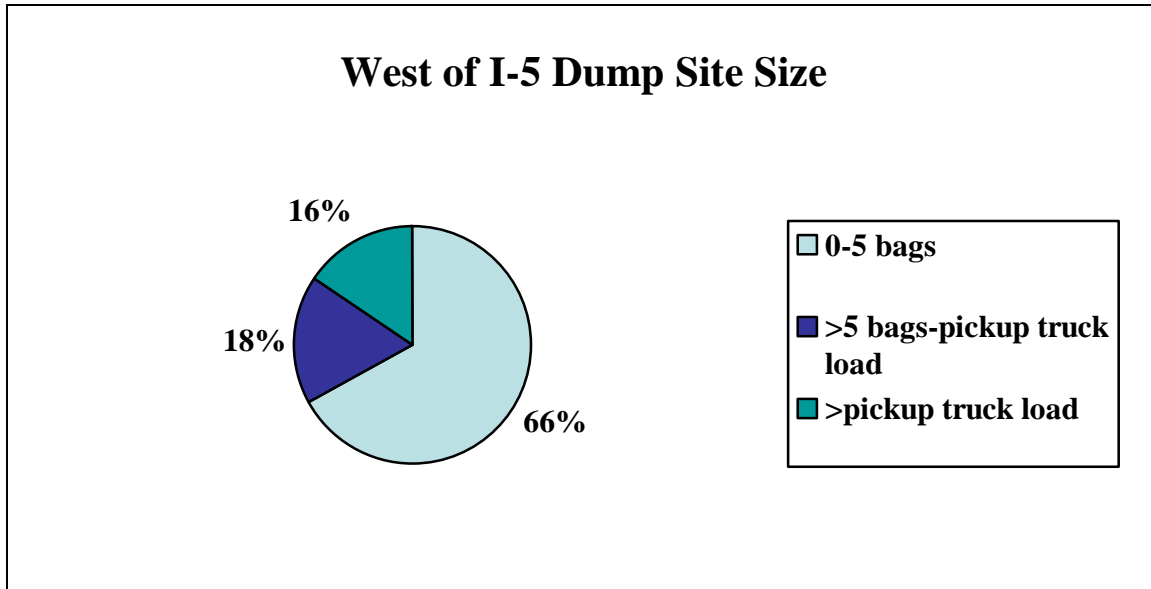


Figure 8 West of I-5 dump site size

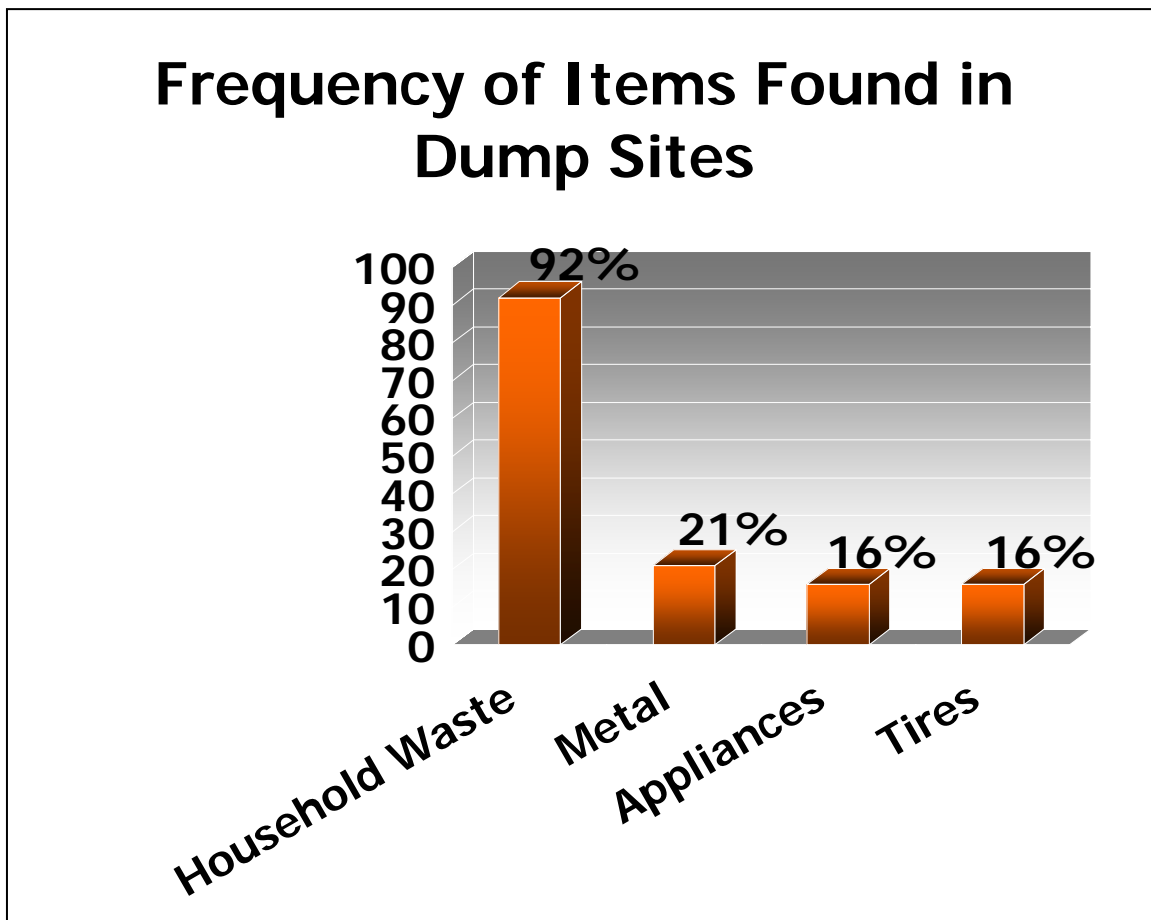
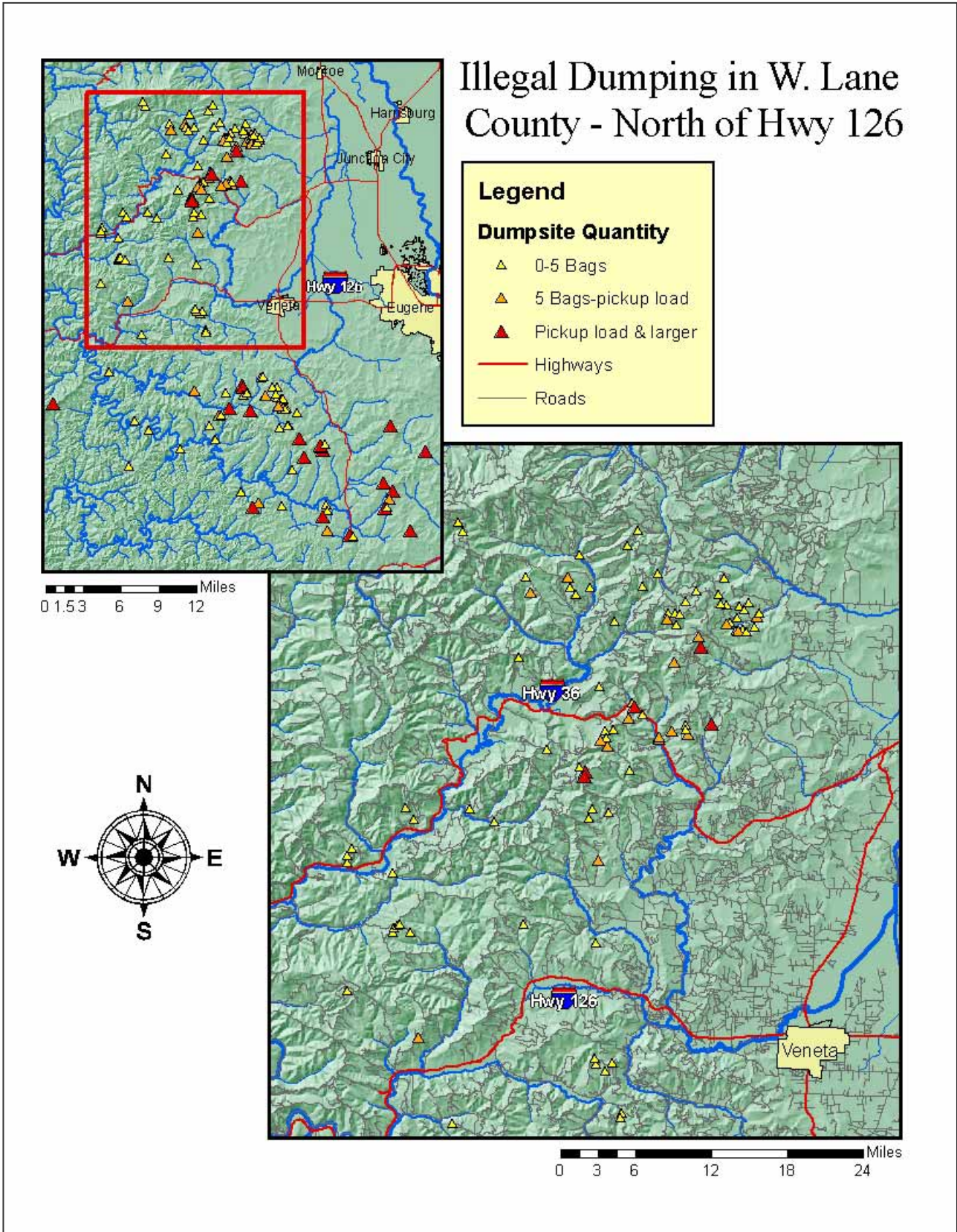
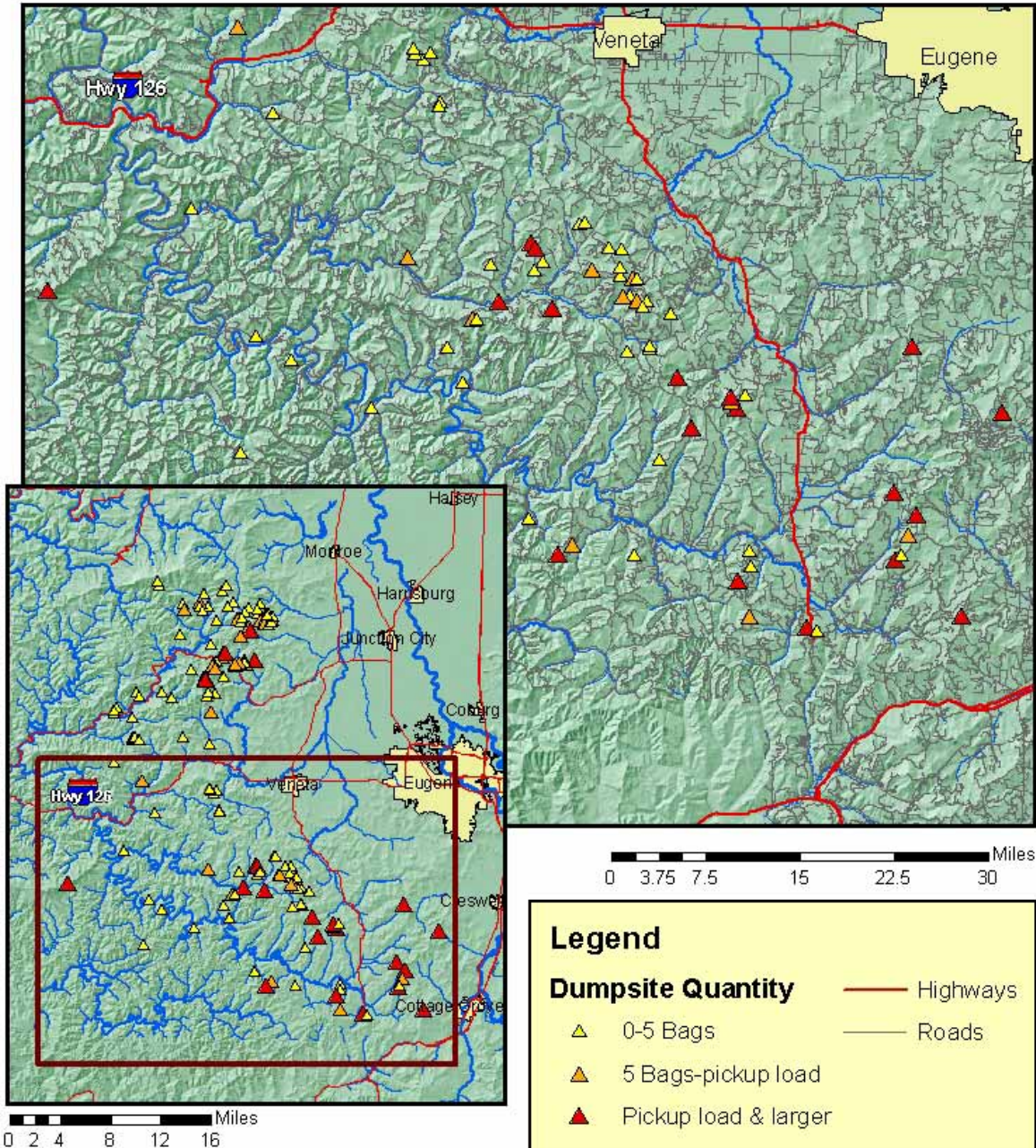
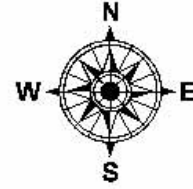


Figure 9 Frequency of items in illegal dump sites west of I-55



Illegal Dumping on Eugene District BLM Land

Illegal Dumping in W. Lane County - South of Hwy 126



Map 10 Illegal dump sites south of Highway 126 and west of I-5

6.6 Our Recommendation

Assuming that the current dumping patterns are representative of illegal dumping hotspots, we believe that two separate routes will be necessary to keep the area clean in the future.

Northern area

Suggested clean up routes by township and range (in order of severity):

One route, orientated in the northern cluster of dump sites, should follow the roads with highest dump site severity and concentration. The areas, by township and range, that experienced the largest dump sites were 16s-6w and 16s-7w. Just north, 15s-6w and 15s-7w had a large quantity of smaller dump sites and littered areas. These areas are all easily accessible by Highway 1395. For a visual representation of the recommended routes, see *Map 11 Recommended clean-up routes west of I-5 and north of Highway 126*.

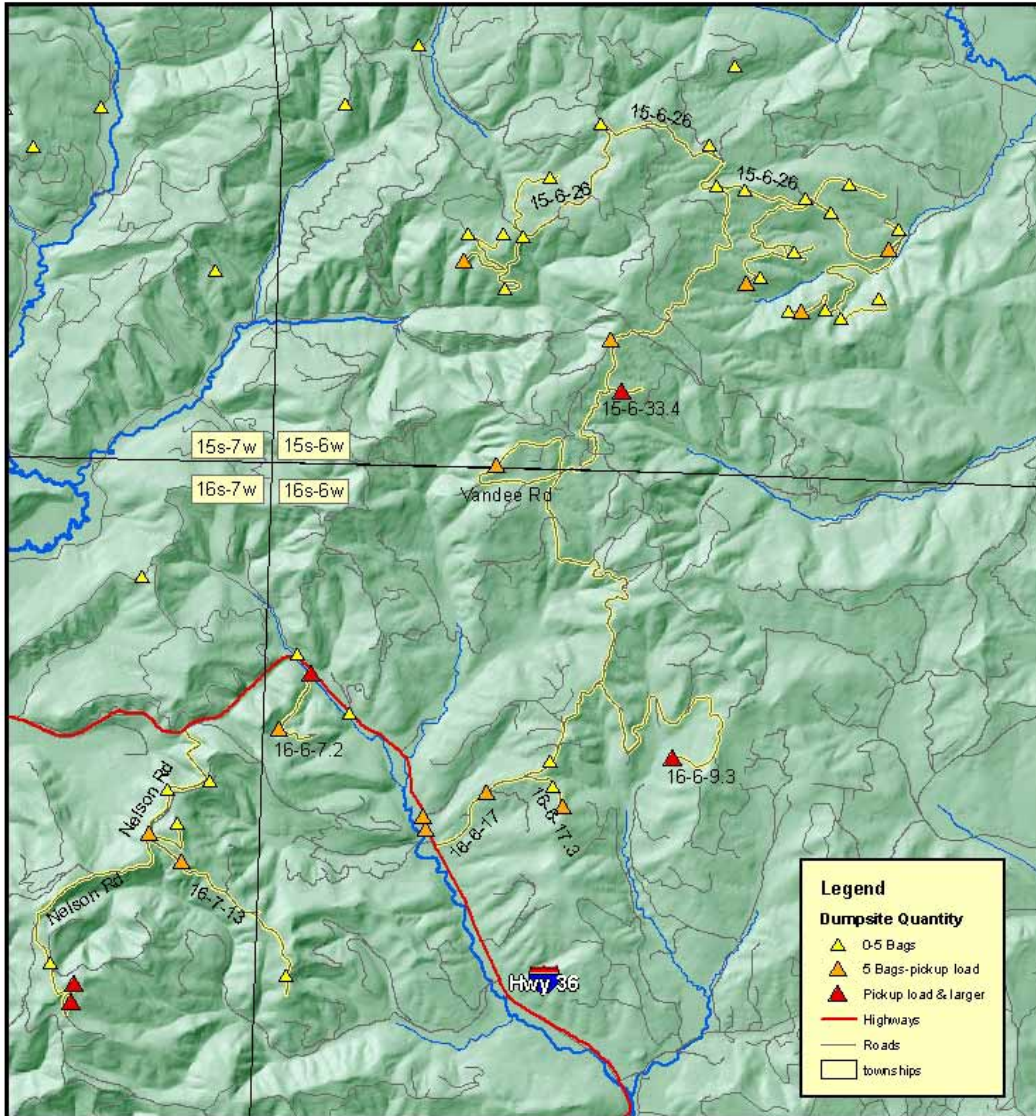
16s-7w – This area received a high volume of dump sites down Nelson Ridge Road (also referred to as forest road 16-7-12.1. Directly off of Nelson Ridge Road, Bear Ridge Road was the target of a couple medium and small sized dump sites. Both roads should be scanned frequently for new dumping activity.

15s-6w – Numerous dump sites were found along the road 15-6-26 and off connected spurs. Roads 15-6-26.2, 15-6-29, and 15-6-27 should be checked regularly for additional dump sites. These roads appear to be dumping hotspots.

16s-6w - In the northwestern corner of section 16s-6w, many dump sites were located along the side of Highway 1395 at forest road junctions west of road 16-6-17. Additionally, 16-6-17 is a hotspot for dumping and should be checked frequently. A couple of dump sites were found on the spur 15-6-33.1, the second spur off 16-6-17 from Highway 1395.

15s-7w – This area had a few smaller sized dump sites, but not enough to be declared a hotspot. We recommend the clean up crew focus on more heavily affected areas.

Illegal Dumping Routes W. Lane County - North of Hwy 126



Map 11 Recommended clean-up routes west of I-5 and north of Highway 126

Southern area

Suggested clean up routes by township and range (in order of severity):

The route in the south would be similar in these aspects. The areas affected the most are easily accessible by the Territorial Highway. Specifically, by township-range, 19s-5w, 20s-4w, 19s-6w, and 20s-5w are the areas we recommend the crew focuses on. Map 12 and Map 13 are visual representations of these recommended routes.

19s-6w – The main road we recommend the clean up crew travel is road 19-5-18. This road connects to the Territorial Highway in 18s-5w, but most dump sites were located in 19s-6w. Road 19-5-22.02 branches off road 19-5-18 in a southeastern direction. Many smaller dump sites were located along this road. Larger dump sites were found down road 19-5-22, also off of road 19-5-18. These roads are hotspots and should be checked regularly.

19s-5w – The hotspots in this area are down road 19-5-17.5 and road 19-6-3. These roads are in close proximity to the Territorial Highway.

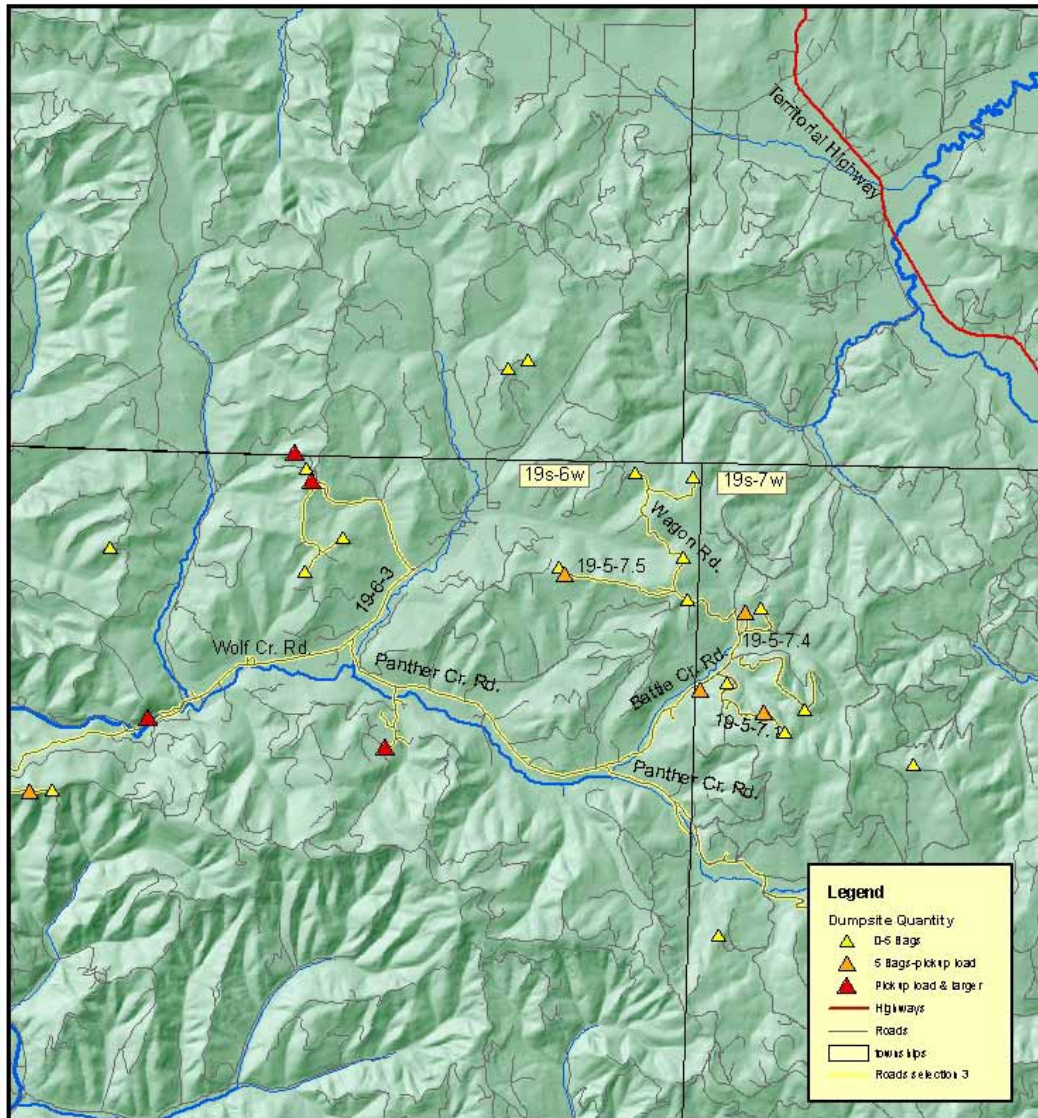
20s-4w – Accessible from the Territorial Highway, road 20-5-14.01 had a cluster of illegal dump sites towards the end of the roads. Three of the five dump sites along this road were large, over 1 pickup truck load of garbage. We advise clean up crews to check this area occasionally

20s-5w – This area had a few dump sites down road 20-4-15. This area does not appear to be a dumping hotspot, but infrequent rechecks of the area are advised to insure dumping activities don't increase.

Preventative signs along the sides of the Highway 1395 and the Territorial Highway should supplement the clean up routes. Additionally, we recommend that the Forest Service Work Crew continue to place preventative signs directly near largest and most severe illegal dump sites they clean.

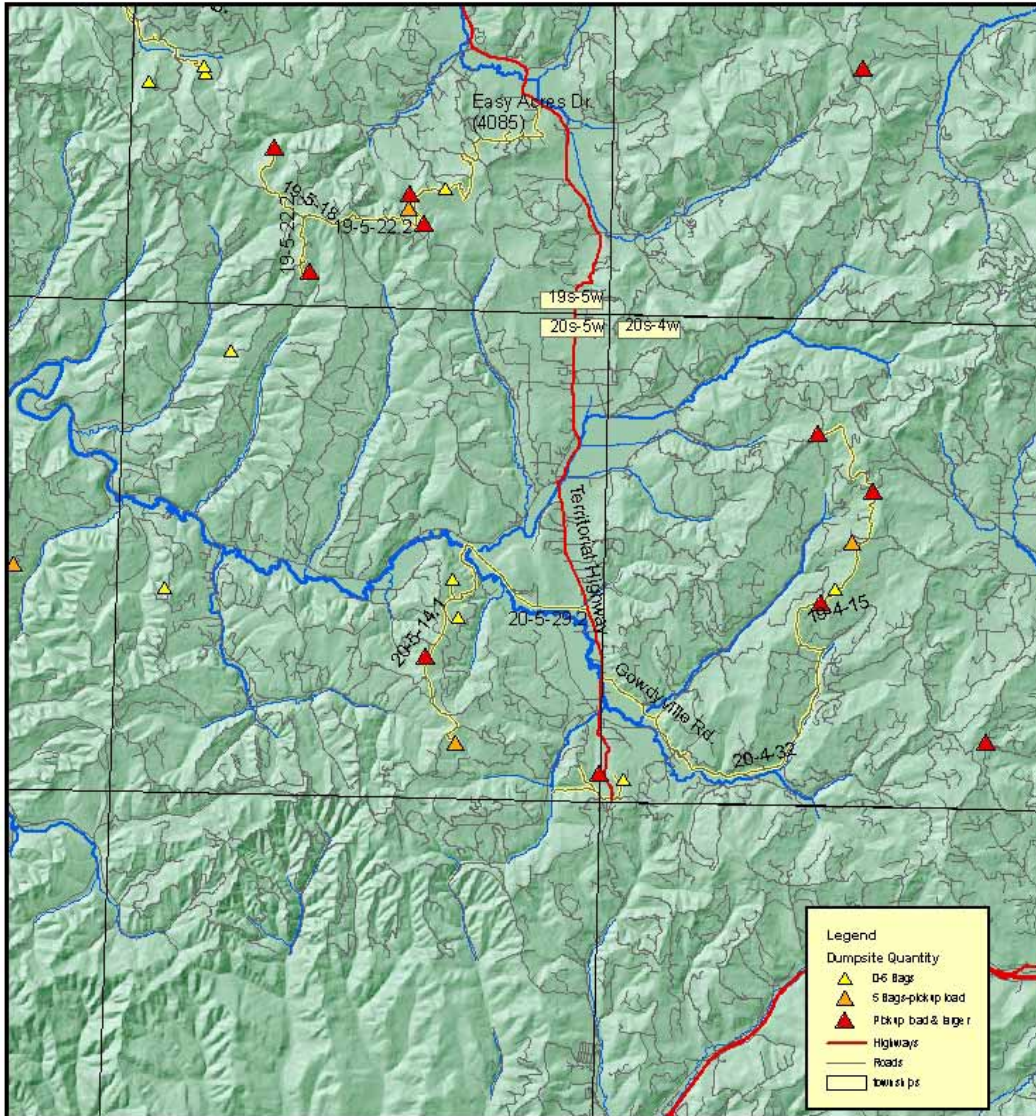
Finally, we recommend installing a gate to any areas frequently unused to reduce the accessibility to potential dumpers. Gates can be extremely effective at preventive accessibility of an area to potential dumpers. This method of prevention is suggested for specific areas that have an active, severe problem with illegal dumping and are not used by the public during the majority of the year.

Illegal Dumping Routes W. Lane County - South of Hwy 36



Map 12: Illegal dumping routes in western Lane County, south of Highway 36 (A)

Illegal Dumping Routes W. Lane County - South of Hwy 36



Map 13: Illegal dumping routes in western Lane County, south of Highway 36 (B)

7 Our Clean- Up Program

7.1 DumperStumper.com Website and Database

DumperStumper.com is a multi-functional system for use by both the BLM and the general public. The BLM can log in to a secure part of the website to access functions that are hidden from the general public. The functions available to the public and the BLM are discussed below.



Figure 10 DumperStumper.com homepage

Public uses

The DumperStumper.com website is the portal to the illegal dumping reporting form. This online form allows the general public to report illegal dump sites on BLM lands in Lane County. When a user clicks the link to report dump sites, they must designate what “dumping management area” contains their dumpsite. See *Map 4 BLM dump site management areas* on page 13. The management areas east of I-5 were designated as part of a previous clean-up effort and Theresa Coble outlined the areas west of I-5 at our request for use on DumperStumper.com. In addition to reporting the general location of their dump site, users of DumperStumper.com can report information such as dump site severity, composition, quantity, specific location, proximity to water, and potential toxins. A sample dump site reporting form is available in Appendix 10.3 DumperStumper.com dump site reporting form on page 64.

At the bottom of the report form is the option to receive and e-mail when the area the reported dump site is in has been cleaned. This feature offers the individuals reporting dump sites confirmation that, by reporting dump sites, they are playing an active role in preserving the health and beauty of BLM lands in Lane County. The text of the email that dump site reporters will receive when a crew dispatched to the area is available in Appendix 10.2 Notification E-mail for Dump Site Reporter on page 63.

The public can sign up to volunteer for the Eugene District BLM. And, if anyone is interested in taking a more direct role in the fight against illegal dumping, DumperStumper.com contains information and contact information for our Adopt-a-Forest program. This program invites organization to adopt one of two predetermined areas of the Mohawk watershed. Refer to Section 7.2 Adopt-a-Forest Program for more information about the Adopt-a-Forest program. Adopt-a-Forest groups can report their clean-up events online (see appendix 10.4 DumperStumper.com Adopt-a-Forest clean-up event reporting form for a sample clean-up report form).

On the website, the public can learn more about who the Adopt-a-Forest groups are and the Adopt-a-Forest groups simultaneously gain recognition for their valiant efforts.

DumperStumper.com is an essential component of the Adopt-a-Forest program. The group uses the website to report clean up events, addresses or other identifying evidence at dump sites, items left behind, and unusual items found.

Statistics about the dump sites that have been reported, the total quantity cleaned up, and the number of tires removed can be located through the “stats”. We were limited to displaying easily quantifiable figures on the stats page, but the information displayed is enough for people to understand the tremendous difference the clean ups really make.

Another important aspect of DumperStumper.com is the links page. On this page, the public can access resources and information on illegal dumping, disposal services locally and nationally, and tips to recycling, reducing personal trash output, and repairing older appliances for reuse or donation.

The homepage page contains direct links to the Eugene District BLM website and the Service Learning Program's Illegal Dumping Project's website.

BLM uses

The BLM section of the DumperStumper.com is designed for BLM employee use and is accessed via a secure log-in from the DumperStumper.com homepage. The general public will not be able to view this area. The database functions are explained below.

The BLM section will be accessible to BLM employees via a login and password on the DumperStumper.com homepage. This ensures the security of the information stored on the database. In the secure BLM only pages of DumperStumper.com, employees have access to the same functions as the general public and additional access to editing and query functions.

BLM employees can search the stored illegal dumping site information based on predetermined query fields. The sites can be queried by the following characteristics:

1. dump site "management area,"
2. whether or not the site has been resolved (the BLM can designate a site as "resolved" after sending a crew to the area, at which point an email is automatically sent to the person who reported the site),
3. proximity to water,
4. whether sites were entered by the public or the BLM,
5. the presence auto chassis, and
6. the presence of potentially toxic substances

The BLM can also view the clean up form submitted online by an Adopt-a-Forest group following a clean up event. This way they can track information on materials left at the site, the materials recovered, and the volunteer hours committed to cleanup efforts.

The query capabilities allow the BLM to view the dump sites in the Adopt-a-Forest areas, Drury Creek and Shotgun Creek sub basins. When an Adopt-a-Forest group indicates their interest in organizing a clean-up event, the BLM can utilize these features to inform the Adopt-a-Forest group of the dump sites in their adopted area.

On DumperStumper.com, Adopt-a-Forest groups can be added, removed, or the related information can be edited by the BLM. People that report dump sites on the public part of the web page have the option of entering their email "to be contacted about future volunteer activities." The volunteer list can be accessed by the BLM under the "volunteer emails" feature on the secure portion of the website.

Currently, the BLM can use the website to locate dumping hotspots and increase the efficiency of clean up routes and events. In the future, the BLM can learn more about the changes in illegal dumping patterns by reviewing the stored dump site data, performing queries on various fields, and reviewing clean up statistics. The effectiveness of the

Adopt-a-Forest program can also be determined by looking at the dumping patterns and clean up information.

7.2 Adopt-a-Forest Program

Our Adopt-a-Forest Program is modeled after the Michigan Coalition for Clean Forests Adopt a Forest Program. The purpose of this program is to harness the concern and care people have for their local public lands by asking them to volunteer to help clean up established illegal dump sites. We hope that this program will allow the BLM and the Lane County Youth Services Crew, which currently cleans the Shotgun Creek area, to focus their attention on areas that have not been patrolled in recent years and which have been heavily dumped upon. The areas we believe need attention are described in Sections 5.6 (for the Mohawk Valley) and 6.6 (the area west of I-5).

In the Adopt-a-Forest program local organizations and groups are encouraged to participate by adopting either the Shotgun Creek or Drury Creek drainage basins. The Shotgun Creek area was selected because of its popularity amongst forest users and Drury Creek was chosen because of interest expressed by the Mohawk Watershed Partnership and other local groups in adopting that drainage. We hope that multiple groups will adopt each area. The basins will not be further divided for adoption, but rather the user groups will have overlapping areas. Illegal dumping is prevalent enough in these two areas that we do not anticipate any Adopt-a-Forest group will be able to completely clean the areas they adopt and therefore it should not be a problem that the adoption areas overlap.

We suggest that each Adopt-a-Forest group organize two clean up events in their adopted area per year. They will not be responsible for completely cleaning their area. Instead, we hope that they put forth a solid effort and clean what they can in a reasonable amount of time. The BLM will provide the group with the location of dump sites reported in their area. The Eugene District BLM will also arrange a method of waiving the disposal fees for Adopt-a-Forest group clean-up events.

Following a clean up event, the Adopt-a-Forest group uses the online report form at www.DumperStumper.com to record data about the items cleaned up. This form allows the group to enter data about items remaining, the quantity of tires removed, the overall quantity of garbage removed, the number of volunteers participating, and the time spent cleaning. This is also one method for the adoption groups to inform the BLM if there were items they could not clean from the forest due to size or other limitations. Information entered on the clean-up report forms is automatically displayed on the clean-up statistics page on the public side of the website. A copy of the clean up event report form is available in Appendix 10.4 DumperStumper.com Adopt-a-Forest clean-up event reporting form

We recommend that signs bearing the names of participating groups be placed on the side of BLM roads in the Mohawk watershed. The Adopt-a-Forests groups will gain additional recognition through these signs. Also, illegal dumpers may think twice about

dumping their garbage in areas cleaned by local groups—they may know the people cleaning the forests or might fear that people are watching for illegal dumpers. Increasing public awareness will help to mitigate illegal dumping.

Like DumperStumper.com, everyone benefits from this program. The BLM will receive help cleaning up illegal dump sites, the public has an opportunity learn about illegal dumping in Lane County and to actively care for their public lands, and the environment will benefit by the overall reduction of potentially harmful materials left in the ecosystem. BLM can focus on lands that have been largely neglected in recent years, and the public can take care of the Drury and Shotgun Creek Watersheds.

7.3 Public Relations Campaign

Our Public Relations Campaign occurred in May. We introduced our website and Adopt-a-Forest program to the public through the local media and by presenting to groups with a vested interest in the Mohawk Watershed.

We arranged to give short presentations to four groups: the Marcola Grange, the Marcola Neighborhood Watch, the Marcola Lion's Club, and the Emerald Valley Trail Riders Association, an ORV Club. Due to the informal nature of these presentations, we prepared a recruitment poster that included basic information about illegal dumping, DumperStumper.com, and the Adopt-a-Forest program. For each presentation, we brought along copies of a flyer containing information on our clean up day event and a map showing the illegal dump sites we located in the Mohawk watershed inventory.

The groups we presented to were extremely concerned about and familiar with the illegal dumping problem in the Mohawk watershed. The Neighborhood Watch group was so enthused with the program they agreed to become our first Adopt-a-Forest group immediately following our presentation.

Each presentation we gave lasted from 7-10 minutes. The time we spent answering questions and listening to reactions from the various organization members typically lasted about twice as long as the actual presentation. This was proof of the concern the people that recreate and/or live in the Mohawk watershed have for the health of the forested public lands in the area.

7.4 Clean up Day

To launch the Adopt-a-Forest program and introduce DumperStumper.com to the public, we hosted a clean up day on May 21st, 2005. The local BLM district decided to observe the annual National Public Lands Day (normally in the fall) on May 21st to coincide with our clean-up event.

We met volunteers and BLM employees at the Shotgun Creek Park at 9:00am for a quick briefing. The Lane County Youth Services Crew, a handful of volunteers from the Marcola Grange, many BLM employees, and a group of six people associated with the Illegal Dumping project were present. Forming five groups, volunteers and BLM employees set off to clean up known illegal dump sites in the area. We created maps for

5 routes through the Shotgun Creek area that included all known dump sites. Each group was equipped with a dump site route and locator map, garbage bags and gloves (courtesy of the BLM), and at least one BLM pickup truck driven by a BLM employee for transporting the recovered materials to the transfer station.

After 3 hours of hard work, we recovered 21 cubic yards of illegally dumped material from BLM land, recycled one large metal culvert, and properly disposed of 21 tires. The event was a huge success. The groups reconvened for a lunch provided by the Eugene District BLM. This event is proof of the big difference that a small group of concerned citizens can make.

8 Case Study Summary

Summary of Case Studies: Lane County, Douglas County, Linn County, Benton County

In order to offer educated suggestions to the Eugene District BLM, we conducted case studies on illegal dumping issues in Lane, Linn, Benton, and Douglas counties. Most of the information was obtained through personal interviews with employees of waste management companies, the USFS, the BLM, and other related county government agencies. Our research, based on interviews with select employees, is far from conclusive. Most of the information contained in this section is anecdotal. Upon completion of the interviews, we realized that we did not have sufficient information to compare the counties side by side. The case studies that we wrote represent preliminary research rather than a final product. They are included in a separate document entitled Preliminary Case Study Research on Neighboring Counties. The information presented there should not be treated as conclusive. This section includes only the information we felt to be helpful in deducing the causes for dumping in rural areas of Oregon.

Illegal dumping is a significant problem throughout the state of Oregon. Although many Oregon counties experience similar dumping problems, severity of dump sites and deterrent programs often vary by county. Differences in geography, demographics, and county management policies result in different illegal dumping experiences. Researching these differences is difficult because few counties or management agencies keep comprehensive records of expenses relating to illegal dumping. The DumperStumper.com database represents a significant step forward in this regard in that it will allow the Eugene District BLM to thoroughly track illegal dumping on the lands that they manage.

One clear lesson learned by researching neighboring counties is that elimination of dumping fees has not solved the illegal dumping problem in Douglas County. That county has not charged for disposal of household garbage since 1973 and still has an illegal dumping problem. Anecdotal evidence from presentations we made to user groups in Lane County suggests that some dumpers in this county dump because transfer stations are not open when they bring their garbage, and that convenience is as much of a factor as price in determining whether or not people dump their garbage legally.

9 Samples of Illegal Dumping Prevention Strategies from Across the Nation

9.1 Introduction

The Adopt-a-Forest program was modeled after a similar program by the Michigan Coalition for Clean Forests. The idea to implement this type of program in Lane County came from the 2003-2004 University of Oregon Service Learning Program Illegal Dumping Team. This year, we made that recommendation a reality. New strategies for reducing illegal dumping are emerging, and old strategies are waiting to be found. We researched illegal dumping prevention strategies to learn about how other organizations are dealing with illegal dumping issues and to gain new strategies to try locally.

The illegal dumping prevention strategies that exist across the country employ a wide variety of techniques. We researched illegal dumping programs through books, news articles, magazines, and the internet. The most lucrative source of illegal dumping prevention strategies was EPA's Region 5 "Illegal Dumping Prevention Handbook". The handbook, aimed at instructing states, territories, and regions about illegal dumping issues and effective prevention techniques, contains a plethora of prevention programs as case studies. The internet was also a notably rich source of illegal dumping programs and information.

As mentioned previously, cleaning up an existing dump site can act as a preventative measure because areas with established dump sites and litter tend to attract more trash. As you will see, many programs follow this philosophy and are aimed at cleaning up existing dump sites.

In many states, the illegal dumping programs are created by a coalition of concerned and affected organizations such as the local governments, natural resource management organizations, watershed councils, and outdoor enthusiast clubs. Here is an overview the strategies used across the country. The strategies include programs that subsidize clean up costs, encourage community involvement in dump site reporting, help organize volunteer events to clean up affected areas, provide low-cost tire recycling events, instruct communities on creating their own prevention program, and increase public awareness of the problem.

9.2 Subsidizing Cleanup

Present illegal dump sites attract more illegal dump sites. Under this context, cleaning up existing dump sites can double as a prevention strategy. Illegal dump sites are extremely expensive to clean. The costs include, but are not limited to, supplies, labor, transportation, equipment, and the proper disposal of the materials cleaned from the forest. Several agencies and programs are devoted to helping groups, cities, and counties afford the cost of cleaning up their lands. The one described below is a sample of this type of program.

Kansas Department of Health and Environment

In 2000, House Bill 2860 authorized the Kansas Department of Health and Environment (KDHE) to allocate money from the solid waste management fund to help Kansas communities clean illegal dump sites. The Illegal Dump Clean-Up Program was created as a result of this allocation. Through the program, Kansas counties and cities can cleanup sites at a low cost through a subsidy from KDHE.

Counties and cities can request clean-up funds by completing an application available on the KDHE website. KDHE will evaluate dump sites for environmental and public health risks and prioritize clean-ups accordingly. A clean-up agreement is officially reached between KDHE and the county or city requesting funds before the clean-up begins.

KDHE contributes 75% (up to \$10,000) of the funds necessary to clean up illegally dumped materials. The county requesting funds must contribute 25% of the total cost of cleanup. This can be accomplished in a variety of non-monetary ways by providing labor, supplies, landfill space, or transportation for the clean-up effort.

Basically, KDHE helps keep Kansas cleaner by creating a low cost way for communities to clean-up their lands.

For more information check out their website:

www.kdhe.state.ks.us/waste/bwm_illegal_dump.html

9.3 Community Involvement

Dump Stoppers - Clackamas, Oregon

The Dump Stoppers program was created by the Clackamas County Community Environment and Forest Programs, the U.S. Forest Service, and the Bureau of Land Management to help prevent illegal dumping on public lands. This program is funded by a federal grant and focuses specifically on public lands in Clackamas County.

The program uses multiple strategies to combat illegal dumping by integrating community education, law enforcement, and community support.

Dump Stoppers educates citizen groups about the problems associated with illegal dumping through community presentations. Lawn signs and stickers are available to help increase public awareness of the program and advertise their hotline number. Dump Stoppers hosts both an anonymous hotline to report illegal dumping and a website featuring an online complaint form.

Illegal dumping and vandalism complaints are investigated by a Clackamas County Sheriff's Deputy who works full time on this issue with a Community Environment assistant. The District Attorney's Office then deals with prosecuting the dumpers.

Dump Stoppers also works with neighborhood groups, volunteers, SOLV (an Oregon based program that offers grants and materials to groups interested in organizing clean up

events), and the Clackamas County local government to clean up public lands. They are highly successful, and have removed over 1000 tires, 20,000 pounds of scrap metal, and over 107,000 pounds of solid waste from Clackamas County forests.

Overall, the multi-faceted approach Dump Stoppers has taken towards illegal dumping integrates a multitude of organizations and offers citizens a chance to become educated about the problem and get involved with the solution.

To learn more, see the Dump Stoppers website: www.co.clackamas.or.us/dtd/dumpstop/

The Anti-Dumping Project, Franklin County, Ohio

The Anti-Dumping Project in Franklin County is funded by the Solid Waste Authority of Central Ohio. This project works to prevent illegal dumping by involving multiple community agencies such as the Franklin County Board of Health, Franklin County Sheriff's Department, Franklin County Prosecuting Attorney's Office, the City of Columbus Health Department, and the City of Columbus Refuse Division. The many strategies used include working with local law enforcement, increasing public awareness, and utilizing public support. A major component of this program is the Nail-A-Dumper website.

This detailed website includes basic information about illegal dumping, disposal information (including a link solely devoted to the proper disposal of tires), dump site reporting instructions, links to related sites, and a web cam that publicly airs the surveillance of active illegal dump sites. The website additionally includes both a page highlighting the illegal dumpers successfully prosecuted in 2004, and another page showing the photographs and information of dumpers that are wanted by the authorities.

The Nail-A-Dumper program allows community members 24 hour access to an illegal dumping reporting hotline and online reporting form. This provides citizens with an easy way to report illegal dumping activity. The website notes all reports are investigated.

Overall, this unique program attempts to involve the entire community in the fight against illegal dumping.

Learn more online at the Nail a Dumper website: www.nailadumper.com

9.4 Community Cleanup Opportunities

Michigan Coalition for Clean Forests

The coalition formed in 2002 from the partnership of the Upper Peninsula and Lower Peninsula "trash teams". In general the coalition is comprised of Michigan USFS agencies, conservation organizations, land management organizations, and volunteer groups. The goal of this effort is to significantly reduce the amount of trash dumped on Michigan's public lands.

The Adopt-A-Forest program is the heart of the Michigan Coalition for Clean Forests. This program integrates law enforcement and community education to help reduce illegal

dumping, educates citizens about proper trash disposal facilities, and allows citizens easy ways to report illegal dumping online. Community members are made an active part of this program through dump site cleaning volunteer opportunities. This program advertises volunteer opportunities and offers help to groups interested create forest cleanup events.

The Adopt-A-Forest website allows people to report illegal dumping online and comment on the progress of dump site cleanup, keeping the information current. They feature a large county map of Michigan with the number of reported dump sites per county noted. This information is updated frequently to aide volunteer groups in locating areas that need to be cleaned up.

The Michigan Coalition for Clean Forests has gained recognition and received multiple awards for the success of their programs. Volunteer have removed trash from over 1 million acres of forested land in Michigan. More than half of the trash removed was recycled.

DumperStumper.com and our Lane County Adopt-a-Forest program were modeled after this program.

To read more about the Adopt-A-Forest program, consult their website:
www.cleanforests.org

9.5 Tire Recycling

Due to the cost of proper tire disposal, tires are common illegally dumped items. Tires can be recycled in a variety of ways and the recycled rubber can be reused. Several cities across the nation have developed different strategies to increase rates of proper tire disposal and recycling.

Sears Auto Center: R.O.T.A.T.E. program

In 2000, the Sears Auto Center in Los Angeles teamed up with the County of Los Angeles Department of Public Works' December program to create a Tire Amnesty Day. Citizens were encouraged to bring in all old tires, which usually incur a fee for proper disposal, and dispose of them for free. This event is repeated nation-wide through a program Sears Auto Center created in 1998 entitled, "Recycling Old Tires Aids the Environment" (R.O.T.A.T.E.). ROTATE works with local governments to fund Tire Amnesty Days.

A multitude of tires are successfully collected for recycling at each amnesty day. Detroit, Michigan hosted an event with ROTATE in April 1998 that collected over 15,000 tires. The tires were recycled and the rubber was transformed into a basketball court surface. In general, many of the tires collected by Tire Amnesty Days are recycled and used for local athletic surface and playground materials. Other cities such as Atlanta and Minneapolis have taken advantage of this program.

Tires are expensive to recycle, so Sears help cities finance participation in this event. In addition, the ROTATE program works to educate citizens that rotating and balancing tires on a regular basis extend tire life, and offer proper tire disposal tips.

To read more about the program, the Wastage Magazine online has an article at: www.wasteage.com/mag/waste_sears_grants_amnesty

9.6 Guides to Creating an Illegal Dumping Prevention Program

A few organizations have thoroughly researched illegal dumping prevention strategies and provide free information to communities and organizations interested in creating their own programs.

EPA Region 5 – Region 5 of the EPA produced a comprehensive “Illegal Dumping Prevention Guidebook” in 1998. The book is available online and offers a number of different strategies for preventing illegal dumping. They promote education, law enforcement, and alternative disposal services along with featuring various case studies of illegal dumping prevention programs that have been created around the country. This guidebook considers all aspects of illegal dumping in an effort to give communities a building block for creating effective prevention strategies. See the EPA Region 5 Illegal Dumping Prevention Guidebook for more information. The guidebook can be downloaded from: www.epa.gov/region5/illegaldumping

Texas Natural Resources Conservation Coalition (TNRCC) – The TNRCC is interested in providing local communities with the resources they need to create their own illegal dumping prevention programs. They have developed an approach to dealing with municipal solid waste (MSW) problems. This model approach includes four major areas of focus: increasing public knowledge, enforcement of laws, accessible to affordable garbage service, and cleaning up dump sites. Their website walks through the basic components of illegal dumping prevention and provides either links to documents or other information sources for each subject. Additionally, TNRCC created an educational brochure about illegal dumping for communities to distribute. Having researched the recommended prevention methods in local Texas communities, the TNRCC allows local areas to get a head start on illegal dumping prevention by learning from other communities’ experiences. To visit the TNRCC’s website: www.tnrcc.state.tx.us/oprd/wasteplan/MSWassist.html#garbage

New Mexico Environmental Department – The Solid Waste Bureau joined up with multiple other concerned organizations in New Mexico to create a guide for overseeing effective environmental law enforcement, specifically aimed at preventing illegal dumping. This manual is directed towards local governments and recommends a variety of basic guidelines for a good prevention program. The 154 page document, available free online, focuses on issues like law enforcement, education, cleanup, and management. The need to tailor each program to individual community issues is recognized as a cornerstone concept in this manual. To download a PDF version of the document consult: www.nmenv.state.nm.us/swb/swbmain.htm

9.7 Other Programs

SOLV - This is a non-profit organization that was established in 1969 by Governor Tom McCall to help preserve Oregon and address growing community issues. The program began by addressing litter and vandalism issues in Oregon. Currently, SOLV funds and helps organize clean-up events dealing with beautification, enhancement, and restoration. They host annual beach and watershed cleanup days and give small grants to groups across the state to host their own cleanup events. Contact: www.solv.org

Detroit, Michigan - The "Tire Roundup" Program in Detroit, Michigan occurred in 1995. The Southwest Detroit Environmental Visions community organization sponsored this event to encourage tire recycling across Detroit. Residents were paid 25 cents per tire. In total, over 8,000 tires were collected. See the EPA Region 5 Illegal Dumping Prevention Guidebook for more information. The guidebook can be downloaded from: www.epa.gov/region5/illegaldumping

New York, New York- The "Illegal Dumping Award Program," allows the citizen who observes and reports an illegal dumping event that leads to a successful conviction to be eligible for 50 percent of the collected fine as a reward. This reward is offered specifically through the Illegal Dumping Tip Program to encourage community members to help convict illegal dumpers and reduce the problem overall. For more information contact: Richard DiPietro, Sanitation Action Center, (212) 219-8090.

For a quick look at even more illegal dumping prevention programs consult Table 4 below. To view a summary of other illegal dumping programs not mentioned above consult Table 5.

Table 2 Summary of programs listed in Section 9: Prevention Strategies

Program Name	Local	State	Regional	National	Educational Tools	Law Enforcement	Disposal and Recycling	Organizes Clean Up Events	Funding	Public Reporting Access	Contact Information
Kansas Department of Health and Environment		●									Phone: (785) 269-1600 E-mail: w bider@kdhe.state.ks.us Website: w w w .kdhe.state.ks.us/w aste/bw m_illegal_dump.html
Dump Stoppers- Clackamas County, Oregon	●				●	●		●	●	Online	Phone: (503) 650-3333 E-mail: info@co.clackamas.or.us Website: w w w .co.clackamas.or.us/dtd/dumpstop/
Anti-Dumping Project- Franklin County, Ohio	●				●	●	●			Online	Phone: (614)871-5322 E-mail at: w w w .nailadumper.com/contact.htm Website: w w w .nailadumper.com
Michigan Coalition for Clean Forests		●			●	●	●	●		Online	Phone: 1-800-821-6263 E-mail: w w w .cleanforests.org/contact.htm Website: w w w .cleanforests.org
Sears Auto Center- R.O.T.A.T.E Program				●			●	●			For more information about this program consult the article about ROTATE at Wasteage.com. This article can be accessed at: http://w asteage.com/mag/w aste_sears_grants_amnesty/ .
EPA Region 5 Prevention Handbook				●	●						Phone: (312)886-7449 E-mail: oliver.marie@epa.gov Website: http://w w w .epa.gov/region5/illegaldumping/
Texas Resources Conservation Coalition		●			●		●				Phone: (512)239-0028 E-mail: policy@TCEQ.state.tx.us Website: comnet.org/sdev/illegal_dumping.html
New Mexico Environmental Department				●	●						Phone: 1-800-219-6157 E-mail: jon_goldstein@nmenv.state.nm.us Website: w w w .nmenv.state.nm.us/sw b/sw bmain.htm
SOLV- Oregon		●						●	●		Phone: 1-800-333-SOLV E-mail: info@solv.org Website: w w w .solv.org
Tire Round-up Program- Detroit, Michigan	●							●			More information can be found online at: w w w .epa.gov/region5/illegaldumping

Table 3 Examples of prevention programs not detailed in Section 9: Prevention Strategies

Program Name	Local	State	Regional	National	Educational Tools	Law Enforcement	Disposal and Recycling Tips	Funding	Organizes Clean-Up Events	Public Reporting Access	Contact Information
Pennsylvania Cleanways		●		●							Online Phone: (724) 836-4121 E-mail: info@pacleanways.org Website: www.pacleanways.org
Earth 911			●			●					Phone: (480) 889-2650 E-mail: psgj@earth911.org Website: www.earth911.org
City of Phoenix Solid Waste	●			●	●	●					Phone Phone: (602) 262-7251 E-mail: pwserve@ci.phoenix.az.us Website: www.ci.phoenix.az.us/GARBAGE/illdump.html
Iowa Department of Natural Resources		●		●							Phone Phone: (515) 281-8623 E-mail: TomAnderson@dnr.state.ia.us Website: www.iowadnr.com/waste/sw/illdump.html
New York City Illegal Dumping Program	●				●	●					Form Phone: (212) 639-9675 Contact: John Doherty, sanitation commissioner Website: www.nyc.gov/html/dos/html/ildpgpgm.html
City of Gary Environmental Affairs Department	●			●		●					Phone: (219) 882-3000 E-mail: dcarey@ci.gary.in.us Website: www.ci.gary.in.us/environmentalaffairs/community.as
Southwest Detroit Environmental Vision	●			●				●			Phone: (313) 842-1961 E-mail: swdev@flash.net Website: comet.org/sdev/illegal_dumping.html

10 Appendices

10.1 *Data dictionary showing information collected for each dumpsite inventoried*

Data Dictionary

DUMP_SIT - Point Feature

RECORD NUM -

ENTERED BY -

DATE - Date

OWNERSHIP - Menu

BLM,

USFS,

STATE PARK,

ARMY CORPS,

PRIVATE,

OTHER,

ROAD ACCES - Menu

PAVED,

GRAVEL,

DIRT,

4 WHEEL ONLY,

LAST DUMPI - Menu

PAST MONTH,

PAST YEAR,

MORE THAN A YEAR,

UNKNOWN,

MULT_DUMP - Menu

YES,

NO,

UNKNOWN,

AREA EFFEC - Menu

< 100 SQ FT,

100 - 499 SQ FT,

500 - 1000 SQ FT,

> 1000 SQ FT,

CAN/DUMPSTER OVERFLO,

DUMPSITE S - Menu

1 MINOR,

2,

3,

4,

5 SEVERE,

AUTOS - Menu

YES,
NO,
MATTRESSES - Menu
YES,
NO,
FURNITURE - Menu
YES,
NO,
HAZARDOUS - Menu
YES,
NO,
LARGE APPL - Menu
YES,
NO,
ELECTRONIC - Menu
YES,
NO,
FLUORES_ L - Menu
YES,
NO,
HOUSEHOLD - Menu
YES,
NO,
YARD DEBRI - Menu
YES,
NO,
CHRISTMAS - Menu
YES,
NO,
POTENT_ TO - Menu
YES,
NO,
BATTERIES - Menu
YES,
NO,
SHARPS - Menu
YES,
NO,
ANIMAL CAR - Menu
YES,
NO,
SPENT AMUN - Menu
YES,
NO,
CAMPER SHE - Menu
YES,

NO,
TIRES –
TIRE WITH
Photo Numb -
METAL - Menu
YES,
NO,
PLYWOOD - Menu
YES,
NO,
PRIMARY SO - Menu
RESIDENTIAL,
COMMERCIAL,
RECREATIONAL,
ROADSIDE LITTER,
UNKNOWN,
CONSTRUCTI - Menu
YES,
NO,
IN OR _25_ - Menu
YES,
NO,
QUANTITY - Menu
< 1 CUBIC YD.,
> 1 CUBIC YD. < 5,
> 5 CUBIC YD.,
CLEAN_UP - Menu
1/2 HOUR OR LESS,
1/2 - 1 HOUR,
1 - 2 HOURS,
2 - 3 HOURS,
3 - 5 HOURS,
5 - 8 HOURS,
MORE THAN 8 HOURS,
ITEMS REMA - Menu
YES,
NO,
NOTES_ -
ITEMS LEFT - Menu
YES,
NO,
ITEMS LEF2 - Menu
YES,
NO,
ITEMS LEF3 - Menu
YES,

NO,
ITEMS LEF4 - Menu
YES,
NO,
ITEMS LEF5 - Menu
YES,
NO,

10.2 Notification E-mail for Dump Site Reporter

Dear forest user:

Thank you for reporting illegal dumpsites at dumperstumper.com. Your report helps the BLM identify dumping hotspots for targeted cleaning and prevention efforts.

The BLM dispatched a work crew to the area where you recently reported an illegal dumpsite.

If you discover the dumpsite you reported was not cleaned, please report it again at dumperstumper.com. There are dumpsites throughout the forest and individual sites may be difficult to find. There is a chance the cleanup crew missed the one you reported.

The BLM is sponsoring an Adopt-a-Forest program in the Shotgun Creek and Drury Creek areas of the Mohawk Watershed. Please consider organizing a group to clean either of these two areas. Find more information at dumperstumper.com.

Thank you for helping to keep your forests clean!

—BLM, Eugene District

10.3 DumperStumper.com dump site reporting form

Print this form and keep it in your car so that you can keep track of dumpsites you find. Log on to www.DumperStumper.com to report this information.



Report a new dumpsite on Eugene District BLM Lands



If you don't know the information or are unsure on any field, answer in the following ways: If it is a pull-down menu, select 'unknown' or 'other'. If it is not a pull-down menu, leave it blank.

Date Reported

Where is your dumpsite located?

Take note of the general area where the dumpsite is located. DumperStumper.com has Maps to help you identify which BLM area your dumpsite is in.

Road Access (circle one): Paved Dirt 4-Wheel only Gravel

Description of Contents: [Example: Litter, household waste, part of a car bumper.](#)

Description of Location: [Include information on flagging or unique markers.](#)
[Example: 0.75 miles east of 17-8-13/3670 jct on 4670. On east side of the road.](#)
[Blue and white flag with yellow stripes tied on tree.](#)

Land Ownership (circle one): BLM Private Other

Last Dumping Event At Site (circle one): Past Month Past Year More than one year Unknown

Does site contain garbage from Multiple Dumping Events? Yes No Unknown

Area Affected (circle one): Less than 100 sq ft 100-499 sq ft 500-1000 sq ft
1000 sq ft or more Unknown

[Explanatory note: 100 sq. ft. could be a 10 ft x 10 ft square, a 20 ft x 5 ft square, etc.](#)
[A 100 sq. ft. is roughly the size of a standard parking space in a parking lot.](#)

Dumpsite Severity (circle one): 1 2 3 4 5
(Minor) (Severe)

10.4 DumperStumper.com Adopt-a-Forest clean-up event reporting form

Use this report form to record information on your cleanup event. Print a copy for use in the field, but make sure to enter the info on DumperStumper.com



Thank you for helping to keep Oregon's forests beautiful! Report your cleanup event on this page so that we can keep track of the amount of garbage cleaned from the forests and give you credit for your hard work.

Adopt-a-Forest Program: Clean-up Report for Shotgun Creek and Drury Creek areas

Association Name: _____

Contact Name: _____

Contact Address: _____

City: _____

State: Oregon

Zip: _____

Telephone number: _____

E-mail: _____

Date of cleanup: Month Day Year

Adopted area (circle one): Shotgun Creek Drury Creek

Land Ownership (circle one): BLM Private

Number of volunteers: _____

Hint: To get total volunteer hours, multiply the number of volunteers by the time spent.

Total volunteer hours: _____

Cubic yard(s) of trash removed: _____

Hint: 1 cubic yard equals six trash bags, or a tree, or one refrigerator. Approximately three cubic yards fit in one pickup truck load.

% Recycled: _____

Number of tires removed (without rims): _____

Number of tires removed (with rims): _____

Number of large appliances removed: _____

Number of large mattresses removed: _____

Special equipment used: _____

Equipment donated by: _____

Have you cleaned this site in the past?: _____

Were any hazardous materials found? _____

Were any names, addresses or other identification found? _____

If yes, please specify: _____

Were there any unusual items found that should be mentioned in the media? _____

Name of local newspaper: _____

Where did you hear about the Adopt-a-Forest program? _____

Additional comments: _____

Log on to www.DumperStumper.com to report this information

10.5 Press Releases

Press Release for the Mohawk Watershed Partnership newsletter

FOR IMMEDIATE RELEASE:

CONTACT:

Mark Neff

University of Oregon Service Learning Program

Illegal Dumping Team Manager

541 436-5003

mneff@uoregon.edu

www.dumperstumper.com

www.DumperStumper.com

Help Stop Illegal Dumping!

The Bureau of Land Management and the University of Oregon Service Learning Program are working to stop illegal dumping in the Mohawk Watershed. The BLM has several established routes where clean-up crews are deployed on a regular basis and they have removed tons of garbage from the woods over the years. Dumping is rampant in the area, however, making it difficult for the clean-up crew to stay on top of the problem. The BLM realized that simply cleaning the forest is not enough and hired the Service Learning Program to help stop illegal dumping.

The student team has spent the past eight months researching dumping in the area and have identified approximately 200 separate sites where people have dumped their household or industrial garbage. Most consist primarily of household garbage, but some are established sites where it appears that people have been disposing of garbage, appliances, and even car parts for years.

The students sought a proactive solution to actually prevent people from dumping in the forest. The result: they created www.DumperStumper.com to allow local citizens to participate in the dumping prevention effort. Go to the website and report illegal dumpsites that you find anywhere on BLM land in Lane County and find information on how to properly dispose of all types of garbage. When you report illegal dumpsites via the online reporting form, the information goes to BLM allowing them to better track dumping hotspots.

Along with the website the team created an **Adopt-a-Forest** program whereby citizens can pledge to hold two cleaning events per year in either the Shotgun Creek or Drury Creek drainage. Information reported via the website is given to volunteer groups so that they can know what to expect in their adopted area. Signs will be posted in the area informing would-be dumpers that by dumping in the forest, upstanding citizens will have to take extra time out of their day to

clean the forest. Informing dumpers that local people have to clean up after them is a proven way to prevent dumping. The website and Adopt-a-Forest program is modeled after a similar website that has been very successful in Michigan.

The team and the BLM jointly hosted a forest clean-up event in the Shotgun Creek area on May 21st to launch the website and the new Adopt-a-Forest program. It's not too late to get involved even if you missed the inaugural clean-up day-the BLM is still looking for groups to participate in the Adopt-a-Forest program. See www.dumperstumper.com for more information.

The University of Oregon Service Learning Program is part of the Environmental Studies Program and is designed to give students hands on experience working to solve real-world environmental problems.

Press Release for Daily Emerald, Register Guard, and Eugene Weekly FOR IMMEDIATE RELEASE

Contact:
Mark Neff
mneff@darkwing.uoregon.edu

Help keep your forests clean!

Students at the University of Oregon are working to prevent the problem of illegal dumping in Bureau of Land Management (BLM) regions of Lane County. The team has identified approximately 200 separate sites in the area where people have dumped their household or industrial garbage. Most consist primarily of household garbage, but some are established sites where it appears that people have been disposing of garbage, appliances, and even car parts for years.

The Bureau of Land Management has several established routes where clean-up crews are deployed on a regular basis and they have removed tons of garbage from the woods over the years. Dumping is rampant in the area, however, making it difficult for the clean-up crew to stay on top of the problem. The BLM realized that simply cleaning the forest is not enough and hired the University of Oregon Environmental Studies Program's Service Learning Program to help stop illegal dumping in the area. Log on to http://dumperstumper.com/adopt_a_forest.php for more information.

The students created www.DumperStumper.com a website for community member to report illegal dumping and learn more about keeping our forests clean. If you are a witness to or know of occurrences where waste was deposited in unregulated areas (i.e. off of roadside pull offs, cliffs, or remote forest areas) log onto www.DumperStumper.com to report the illegal dumpsite. When you report illegal dumpsites via the online reporting form, the information goes to BLM allowing them to

better track dumping hotspots. The students also initiated an **Adopt-a-Forest** program whereby citizens can pledge to hold two cleaning events per year in either the Shotgun Creek or Drury Creek drainages. Information reported via the website is given to volunteer groups so that they can know what to expect in their adopted area. Signs will be posted in the area informing would-be dumpers that by dumping in the forest, upstanding citizens will have to take extra time out of their day to clean the forest. Informing dumpers that local people have to clean up after them is a proven way to prevent dumping. The website is modeled after a similar website that has been very successful in Michigan.

Volunteers and community groups are greatly needed to prevent illegal dumping. Community members and organizations are greatly encouraged to participate in the BLM's Adopt-A-Forest program

The University of Oregon Service Learning Program is part of the Environmental Studies Program and is designed to give students hands on experience working to solve real-world environmental problems.

Press Release for KVAL

FOR IMMEDIATE RELEASE:

CONTACT:

Mark Neff
University of Oregon Service Learning Program
Illegal Dumping Team Manager
541 436-5003
mneff@uoregon.edu
www.dumperstumper.com

Spend a Day in the Woods and Help Stop Illegal Dumping!

The Bureau of Land Management and the University of Oregon Service Learning Program are organizing a **forest clean-up day on May 21st** in the Shotgun Creek Area near Marcola. People are dumping their household garbage in our forests, damaging the watershed and the natural beauty of the area. Research shows that people are more likely to dump their garbage in areas that already contain dumpsites- **by cleaning the forests you are actually helping to prevent further dumping!** Meet at Shotgun Park shelter 2 (on Shotgun Creek road, about 3 ¼ miles north of Marcola) at 9am. Bring water for yourself and be prepared for a fun and productive day in the woods. We'll provide gloves, tools, garbage bags and a **free lunch for participants**. Please RSVP to Mark Neff at mneff@uoregon.edu so that we know how much food to order.

A team of students from the University of Oregon Service Learning Program have been researching illegal dumping in the Mohawk Watershed for the past eight months. The

team has identified approximately 200 separate sites in the area where people have dumped their household or industrial garbage. Most consist primarily of household garbage, but some are established sites where it appears that people have been disposing of garbage, appliances, and even car parts for years.

The Bureau of Land Management has several established routes where clean-up crews are deployed on a regular basis and they have removed tons of garbage from the woods over the years. Dumping is rampant in the area, however, making it difficult for the clean-up crew to stay on top of the problem. The BLM realized that simply cleaning the forest is not enough and hired the Service Learning Program to help stop illegal dumping in the area.

The result: the students created www.DumperStumper.com! The May 21st forest clean-up day is to help launch the new illegal dumping mitigation program housed on the website. When you report illegal dumpsites via the online reporting form, the information goes to BLM allowing them to better track dumping hotspots. The students also initiated an **Adopt-a-Forest** program whereby citizens can pledge to hold two cleaning events per year in either the Shotgun Creek or Drury Creek drainages. Information reported via the website is given to volunteer groups so that they can know what to expect in their adopted area. Signs will be posted in the area informing would-be dumpers that by dumping in the forest, upstanding citizens will have to take extra time out of their day to clean the forest. Informing dumpers that local people have to clean up after them is a proven way to prevent dumping. The website is modeled after a similar website that has been very successful in Michigan.

The University of Oregon Service Learning Program is part of the Environmental Studies Program and is designed to give students hands on experience working to solve real-world environmental problems.

Participate in our May 21st Forest Clean-up Day and help launch www.DumperStumper.com. Help keep your forests beautiful!

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