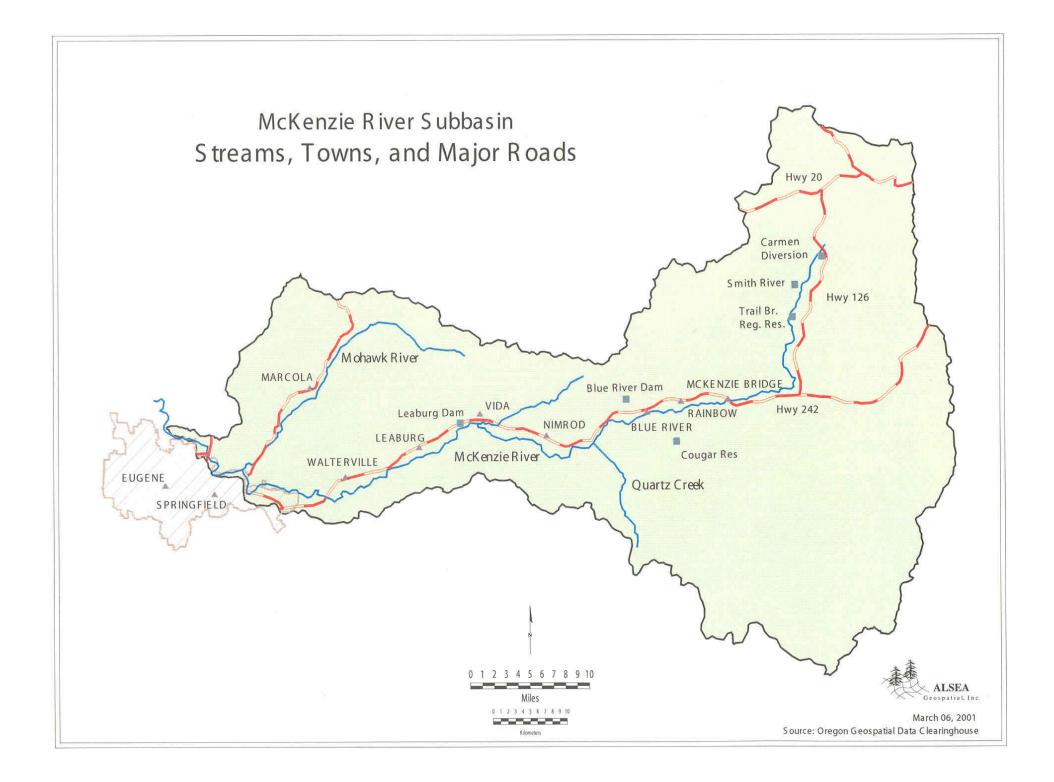
## McKenzie Watershed Emergency Response Karl Morgenstern, Eugene Water & Electric Board



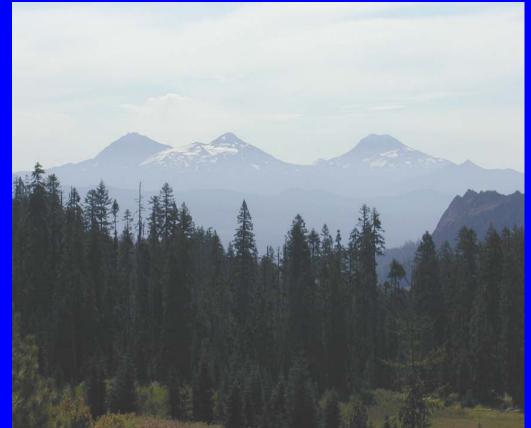


# Why Is Watershed Emergency Response Important To EWEB?

- EWEB's water intake on river provides sole source of drinking water to over 200,000 people.
- Raw water treatment plant is located in watershed near intake.
- EWEB has three hydroelectric projects in McKenzie River watershed that provides 30-40% of electricity to Eugene area.

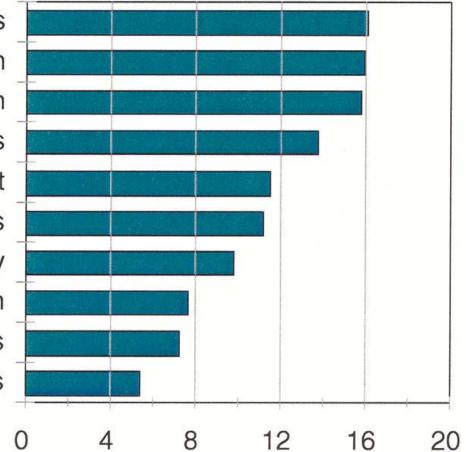
## Source Protection Program Objective

 To measure the balance between watershed health and human use over time and to implement actions that maintain a healthy balance for production of exceptional water quality.



### **RISK CATEGORIES RANKED BY AVERAGE SCORE**

Storm Sewer Outfalls Jrbanized Contamination Haz Mat Transportation Com/Industry Facilities Road Veg Mngmnt Agricultural Activities Forestry Recreation Fish Hatcheries Dams & Powerhouses



## **Elements of Source Protection Program**

- Comprehensive Monitoring
- Disaster Preparedness and Response
- Point Source Evaluation and Mitigation
- Nonpoint Source Evaluation and Mitigation
- Education and Research Assistance
- Land Acquisition
- Watershed Land Use Tracking and Management
- Public Outreach and Information Sharing

## What Is MWERS?



## Participating Agencies

- McKenzie Fire & Rescue
- McKenzie Watershed Council
- Mohawk Rural Fire
- Upper McKenzie Rural Fire
- Springfield Fire & Life Safety
- Springfield Public Works
- Springfield Environ Srvcs
- Eugene Fire & EMS
- Lane County Public Works
- Lane County Public Health
- Lane County Sheriff
- Springfield Utility Board
- Rainbow Water District
- Region 2 HazMat Team

- Lane Council of Governments
- Lane Air Pollution Authority
- Oregon DEQ
- Oregon Health Division
- Oregon DOT
- Oregon Fish & Wildlife
- Oregon State Police
- Oregon Water Master
- Weyerhaeuser
- US EPA
- Army Corps of Engineers
- US Forest Service
- US BLM

# **Objective of MWERS**

To recognize and be prepared for events that have a low likelihood of occurring, but would cause extensive problems to Eugene's water supply.



# Scope of MWERS

- Hazardous material spills in the watershed
- Hazardous material releases from fixed facilities
- Terrorism incident response and preparedness
- Forest fire response and preparedness
- Natural disasters



## **GIS-Based Emergency Response**

- MWERS currently addresses hazardous material spills and/or chemical releases from fixed facilities.
- Use HazMat preparedness as foundation for adding future "modules" /GIS applications
  - Terrorism Preparedness & Incident Response
  - Fire Hazard Assessment & Response
  - Natural Disasters (flood, volcanic, earthquake)

## GIS Key to Response System

- Received ESRI Homeland Security grant in July 2002
  - ArcGIS (4 user license)
  - ArcPad (17 copies)
  - ArcPad Application Builder
  - ArcSDE
  - ArcIMS
  - Free training/ESRI data

## **Components of Response System**

- Watershed Characteristics
- Threats to the Watershed
- Resources to be Protected
- Containment, booming, or other response strategies.
- Equipment inventory and other response resources.
- Communications Plan
- Training & Exercise



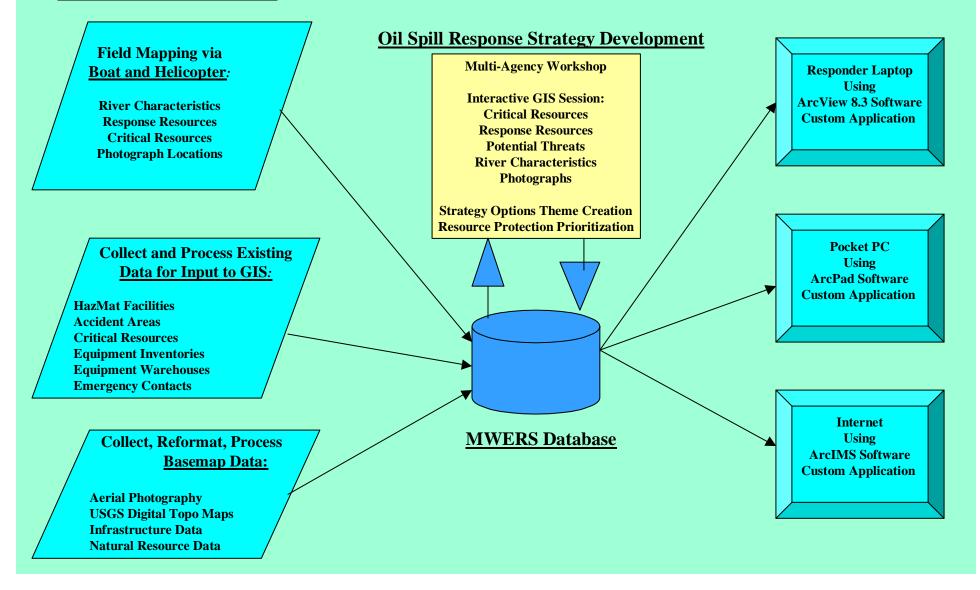
# Type of Data Used in MWERS

- Base Map Images
- Infrastructure
- Response Resources
- Critical Resources
- HazMat Facilities/Threats
- Response Strategies
- Emergency Notification/Contacts
- Aerial Photo Library
- Chemical Library (CAMEO)

## McKenzie Watershed Emergency Response System Development and Delivery

### **GIS Database Development**

### **MWERS Delivery**



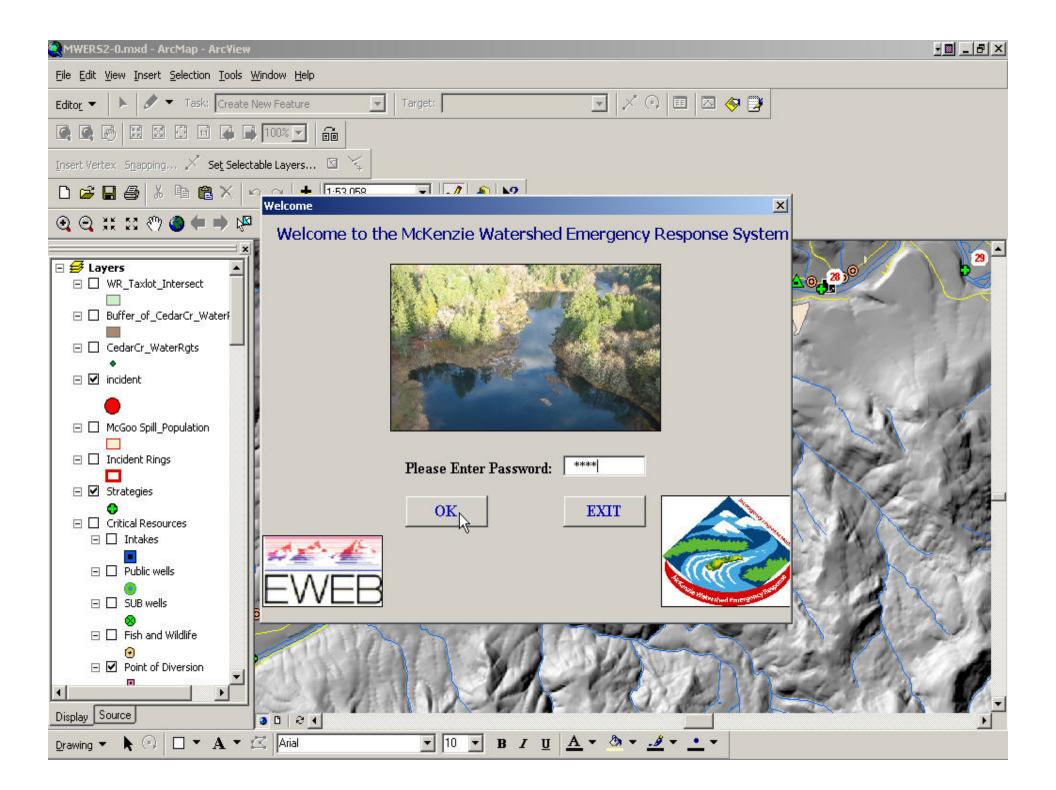
## **Current Response Approach**

- First responder arrives at scene
- Focus on assessing accident, injuries, material spilled, immediate dangers, traffic, etc.
- Confusion and uncertainty on how to address spilled material
- Other agencies start arriving at the scene, spill contractor called
- After 12-24 hours initial actions to stabilize spill are implemented
- 2-4 days later spill is stabilized and cleanup begins

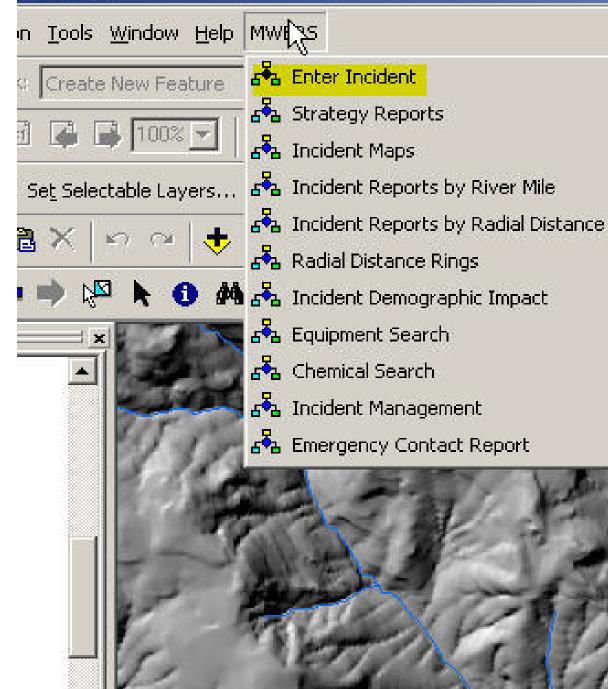
## Our Approach

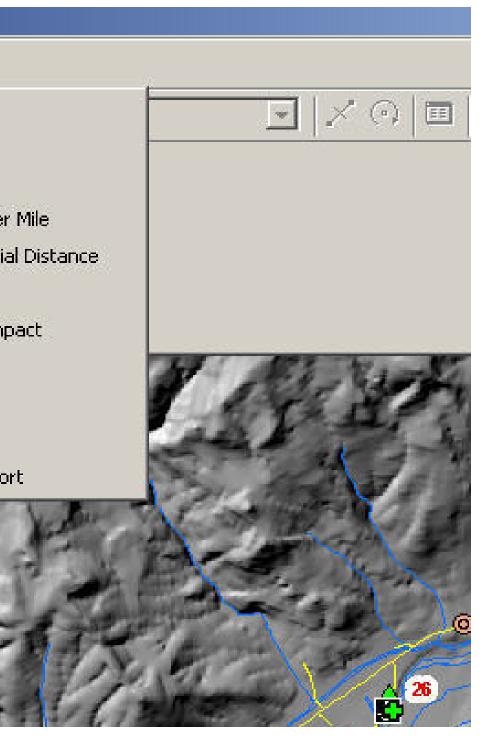
• Provide first responders with the tools they need to avoid confusion and implement response actions to stabilize an incident within the initial hours of a spill or chemical release.



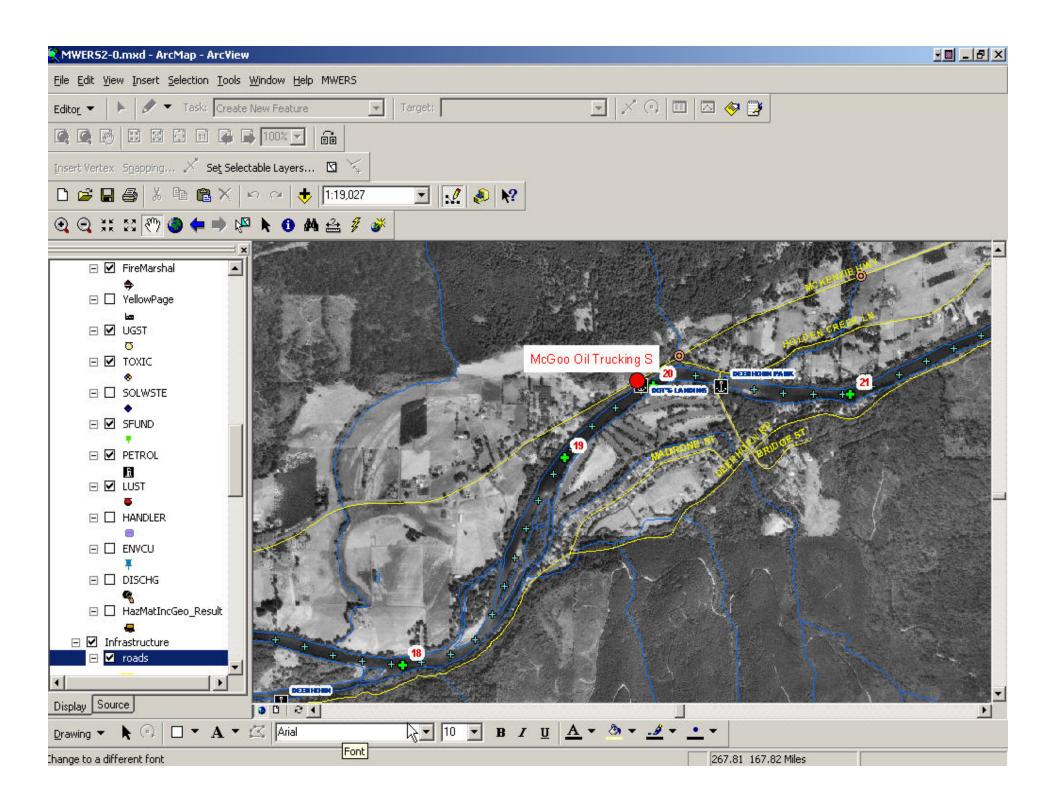


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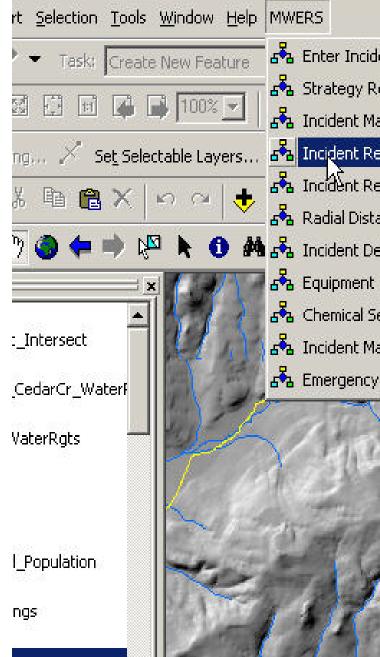


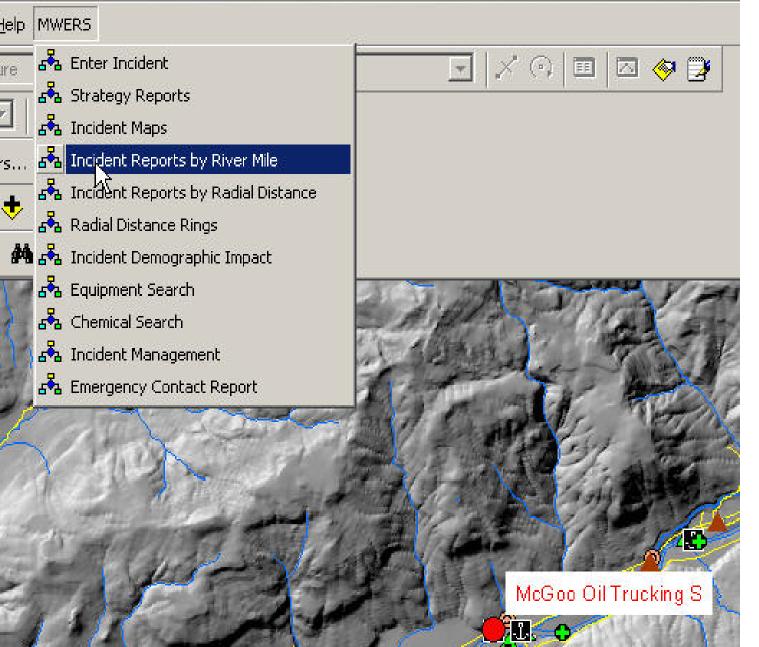


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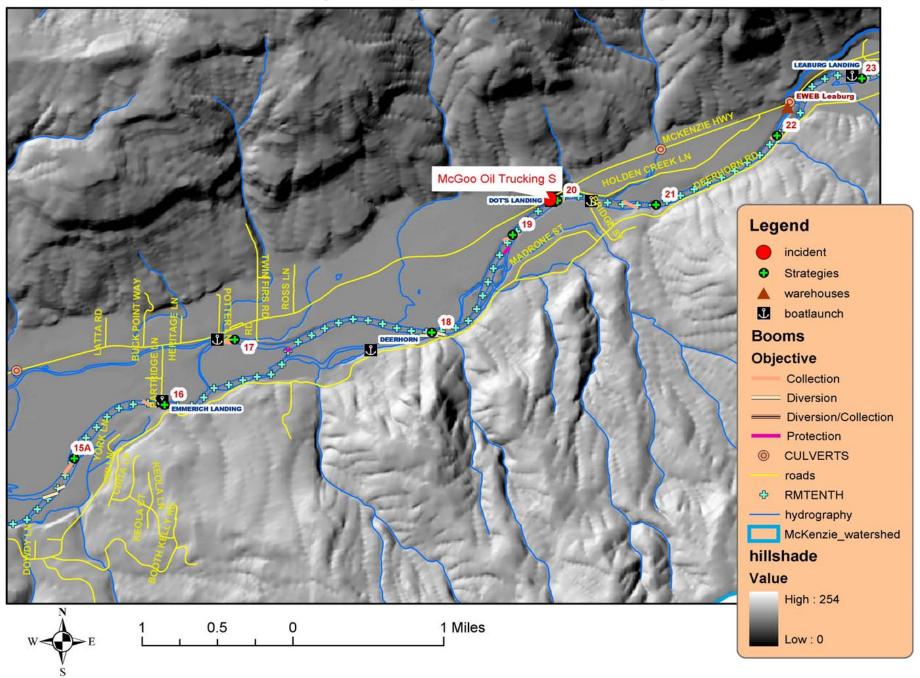
### ArcMap - ArcView



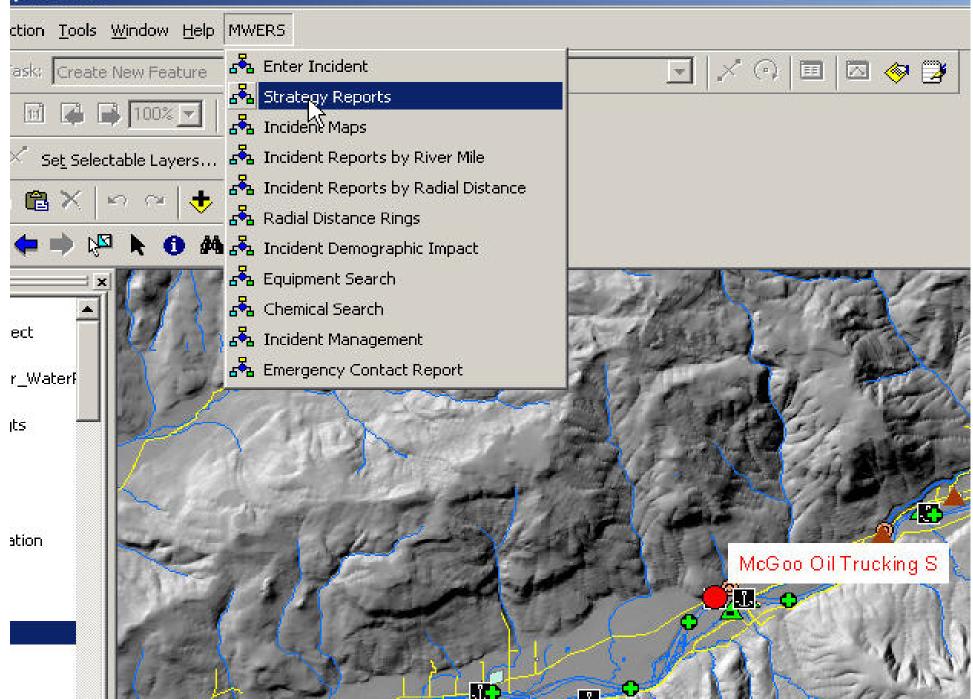


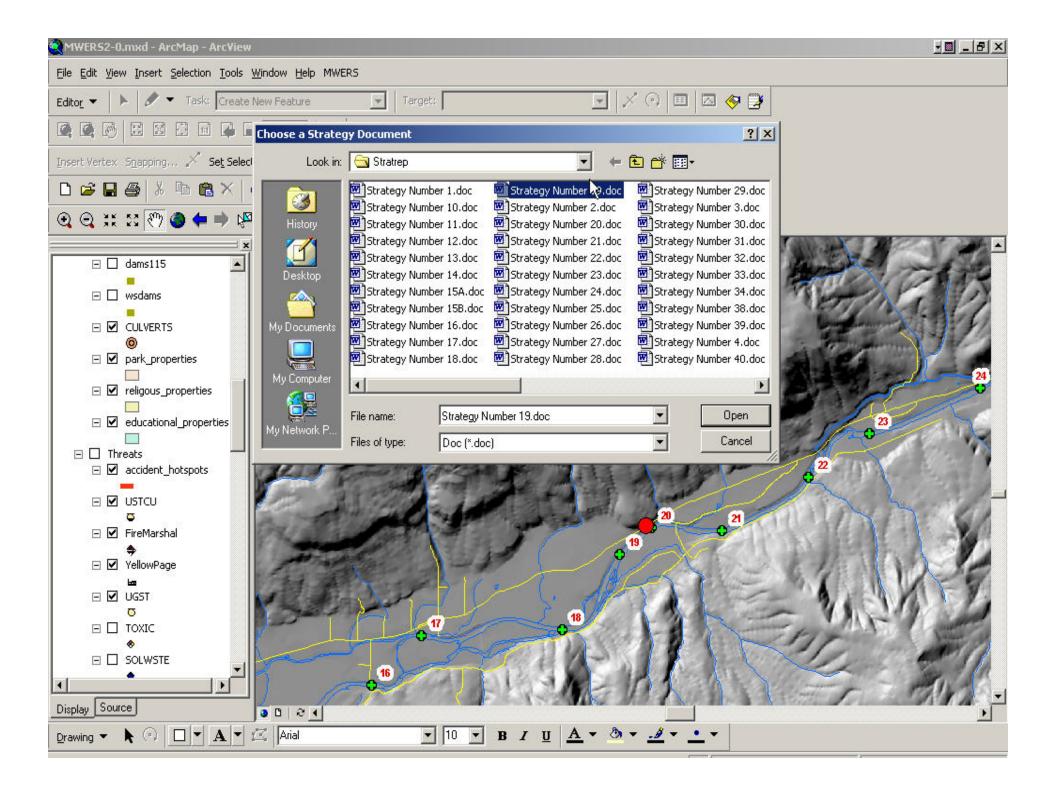
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20	Dot's Landing Area	Western Pond Turtle; Spawning gravels	Collection	44 <sup>:®</sup> 05' 29"N / 122 <sup>:®</sup> 43' 05"W Dot's Landing; Walterville Landing	26.95	1	3/10 - 11:55
19	Community of Deerhorn/McKenzie River Golf Course	Western Pond Turtle; Spawning gravels	Collection & Protection	44 <sup>1°</sup> 05 <sup>1</sup> 15"N / 122 <sup>1°</sup> 42' 28"W Walterville landing; Dot's Landing	26.60	8	3/10 - 12:02
18	East End Goat Island/Deerhorn Landing Area	Western Pond Turtle; Numerous spawning gravels	Diversion	44 <sup>°®</sup> 04' 01"N / 122 <sup>°®</sup> 55' 34"W Walterville landing; Dot's Landing	25.70	26	3/10 - 12:20
17	Walterville Landing/Walterville Canal Head Gates	EWEB Walterville Canal; Numerous spawning gravels	Collection & Protection	44:° 04' 36"N / 122'° 45' 46"W Walterville landing	24.20	56	3/10 - 12:50
16	Partridge Drive/Emmerich Landing Area	Western Pond Turtle; Spawning gravels	Collection	44 <sup>1</sup> ** 04' 12"N / 122 <sup>1</sup> ** 46' 14"W Emmerich BR; Hendricks Park BR	23.70	66	3/10 - 13:00
15A	East End McNutt Island Area	Western Pond Turtle; Spawning gravels	Collection & Diversion	44:° 03' 43"N / 122'° 47' 01"W Hendricks Park BR; Emmerich Landing	22.80	84	3/10 - 13:18
15B	North Channel McNutt Island Area	Western Pond Turtle; Spawning gravels	Collection & Protection	44:* 03' 51"N / 122:* 47' 59"W Hendricks Park BR; Emmerich Landing	21.80	104	3/10 - 13:38
			Diversion/Collection	44:* 03' 18"N / 122:* 48' 32"W	21.22	116	3/10 - 13:49
14	West End McNutt Island Area	Western Pond Turtle in side channels	biversion/conection	Hendricks Park BR;			
14 13	West End McNutt Island Area Hendricks Bridge Area	이 옷이 집중 가장 같은 것이 같아요. 한 것이 가지 않아 가지 않고 봐야 한 것이다.	Diversion; Protection & Collection		20.30	134	3/10 - 14:08
		channels Cedar Creek Head Gates/Intake; Western Pond	Diversion; Protection &	Hendricks Park BR; Emmerich Landing 44:* 03' 22"N / 122:* 49' 44"W	1.Con (9.5 10 1)		

### McGoo Spill Response Resources Map



### p - ArcView





### Strategy Number 19 Community of Deerborn/McKenzie River Golf Course Area



#### Response Objectives:

- Collection
- Protection

#### Critical Resources to be Protected:

- Western pond turtle habitat in side channels along the south channel.
- Spawning area west of boom placement area.

#### Location:

- Community of Deerhom/McKenzie River Golf Course area is located 2.4 miles west of Leaburg. McKenzie River Golf Course is along south bank of boom placement area and can be accessed by taking Holden Creek Lane off (south) of McKenzie Highway at mile post 17.6, cross bridge and golf course is to the west.
- North bank of boom placement area is approximately S50 feet south of McKenzie Highway milepost 17 behind residences.
- 44° 05' 15'N / 122° 43' 28'W

#### Description of Response Tactics:

- Deploy 700 feet of 4x4 or 6x6 hard boom with curtain from south bank at golf course and angle toward north bank behind residence for collection.
- At collection area protect shoreline with sorbert boom/pads and poly sheeting. Collect product with vac truck, skimmers, or other devices.
- Deploy 400 feet of 4x4 or 6x6 hard boom with curtain from south bank across south side channel and anchor west end of boom on island to protect critical habitat in side channel.

#### Access Areas:

- Closest down river access is Walterville Landing boat ramp (north bank of north channel around Goat island) at 2.3 miles west of the boom placement area via boat (or 2.1 miles by vehicle).
- Deerhorn boat ramp is also located down river along the south bank of the south channel around Goat Island approximately 1.3 miles via boat and 1.5 miles by vehicle off of Deerhorn Road.
- Closest up river access point is Dot's Landing boat ramp (north bank of river) 0.6 miles east on McKenzie Highway or 0.4 miles by boat at USGS river mile 31.3 or measured river mile 26.9.
- Access to north bank area is accessible at various areas behind residences. South bank is readily
  accessible from the golf course.

### Staging Areas:

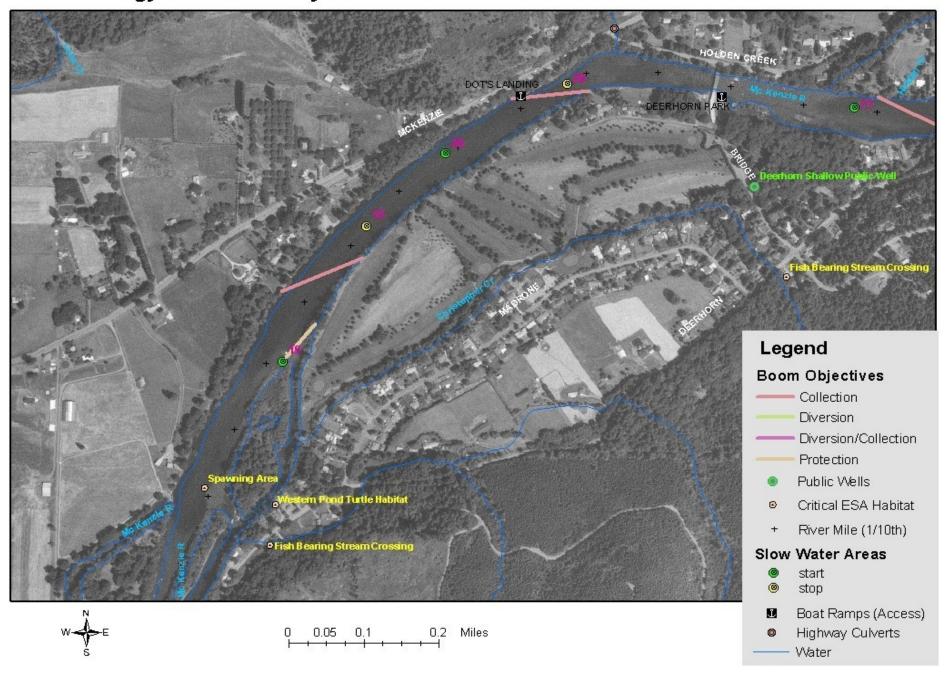
- Walterville Landing has some space for staging equipment and is a newly improved boat ramp.
- EWEB's Leaburg powerhouse complex (2.3 miles east on McKenzie Highway) is a potential equipment staging area that has open space to stage equipment, a nearby park for further staging, cabins for office space, water, electricity, and restrooms.
- Deerhorn Park is another close staging area with ample space, boat launch, and restrooms.
- Nearest equipment warehouse is EWEB's Leaburg Powerhouse (2.3 miles east on McKenzie Highway).

### Watercourse Description:

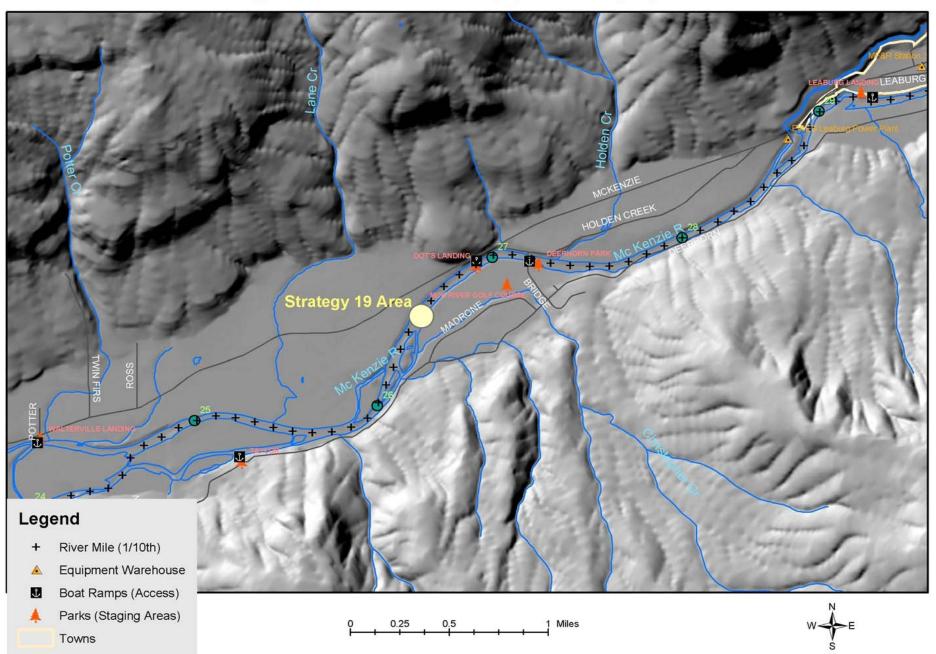
- 1.5 m/s flow during high flow
- No data on depth
- River width = 275-350 feet
- No data on river bottom material.

### Equipment Needs:

1100 feet 4x4 or 6x6 boom 400 feet sorbert boom (shoreline protection) Multiple anchors & rope/cable for boom placement 400 feet x 50 feet of Poly sheeting (shoreline protection between diversion boom) 10 bales sorbert pads 2 cases drum liners (85 gallons) 2 Jet boats (at least) to set boom 2 generators 2 light racks Decon equipment Pressure washer 2.4 Containment boom (hildline cash)

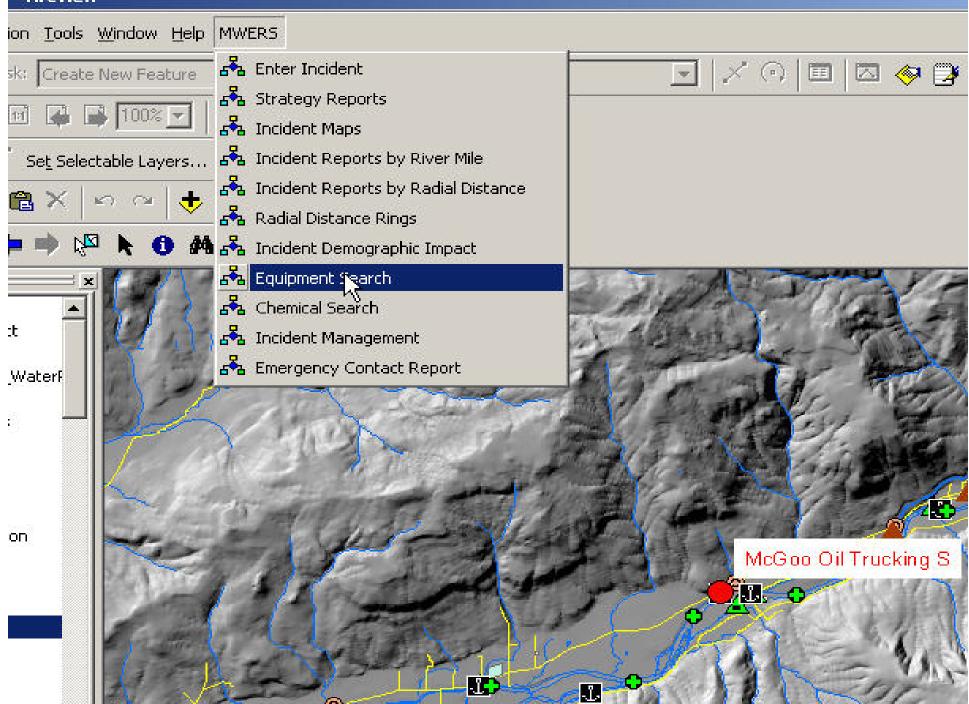


### Strategy 19: Community of Deerhorn/McKenzie River Golf Course Area



Strategy 19: River Access & Equipment Staging Areas

### ArcView



1. Choose Equipment	Oxygen / LEL Detector Pavement Breaker	2. Choose an Incident	McGoo Oil Trucking S		eld Public Works
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Leaburg Hatchery	90700 Fish Hatchery Road	Wright, Tim	541-896-3294	541-896-3543	1.00	6.3
	Leaburg		541-517-5670		ea	
Rainbow Water	1550 42nd Avenue	Hanley, Tim	541-746-1676		1.00	12.63
	Springfield				ea	
Springfield Public Works	225 5th Street	Ferschweiler, Greg	541-726-3761		1.00	14.2
	Springfield				ea	
SUB	1001 Main Street	Rudkins, John	541-726-2396		4.00	14.8
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McKenzie Hatchery	43863 Greer	Kremers, Kurt	541-896-3513	541-896-0448	1.00	4.5
	Leaburg		541-915-1789		ea	
ODFW Springfield	3150 Main Street	lrish, Dick	541-726-3515, ×25	541-998-1362	4.00	13.34
	Springfield	2000/00/00/00/010			ea	
Springfield Public Works	225 5th Street	Ferschweiler, Greg	541-726-3761		1.00	14.2
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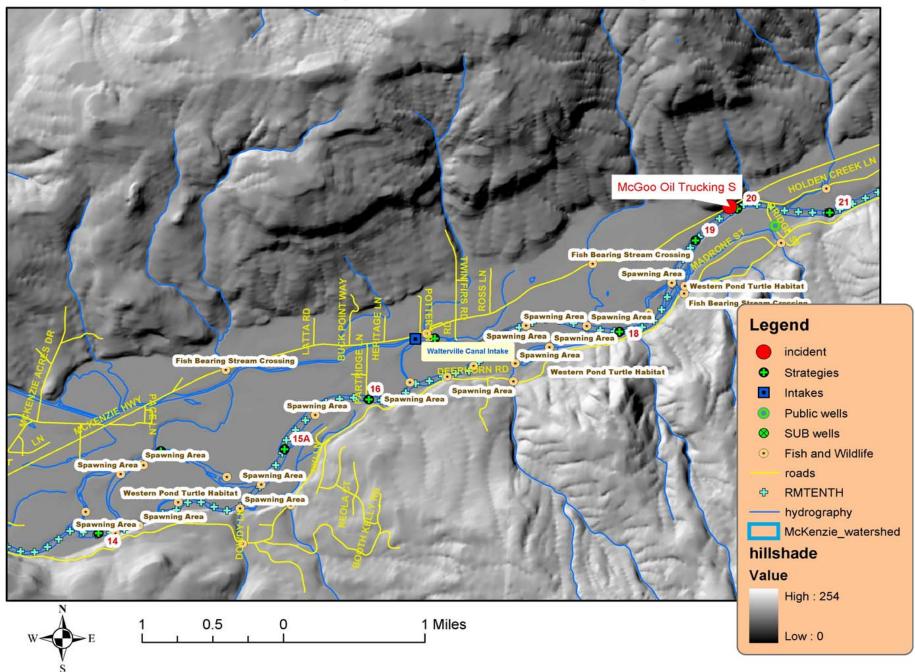
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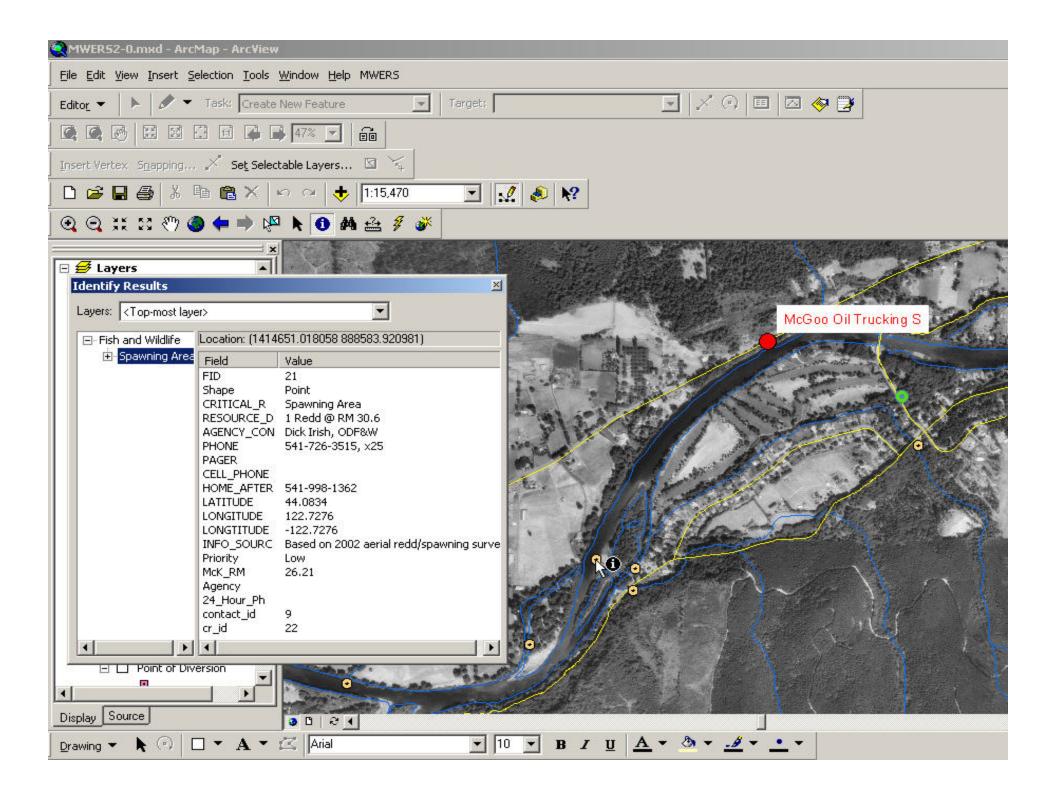
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<ul> <li>3 Rescue Truck</li> <li>4 Water Truck</li> <li>5 Sorbent Pad</li> <li>6 Sorbent Boom</li> <li>7 Sorbent Litter</li> <li>8 Traffic Cones</li> <li>9 SCBA</li> <li>10 Water Pump</li> <li>11 Dive Team</li> <li>12 Hose</li> <li>13 Rope / Cable</li> <li>14 Jet Boat</li> <li>15 River Rescue Team</li> </ul>	2 1 50 1 8 3 3 1 2000 100 100 1 1	ea ea Boxes feet Bag ea ea feet feet feet	1 Hvy & 1 Med Trucks Tankers 50 lbs Trash Pumps & other		Field FID Shape FACILITY_N MANAGER CONTACT TELEPHONE PAGER CELL_PHONE HOME_AFTER	Value           15           Point           McKenzie Fire Station 2           Dale Ledyard           Dana Burwell           541-746-6312           541-349-6074           541-954-2757           541-896-3136
<ul> <li>3 Rescue Truck</li> <li>4 Water Truck</li> <li>5 Sorbent Pad</li> <li>6 Sorbent Boom</li> <li>7 Sorbent Litter</li> <li>8 Traffic Cones</li> <li>9 SCBA</li> <li>10 Water Pump</li> <li>11 Dive Team</li> <li>12 Hose</li> <li>13 Rope / Cable</li> <li>14 Jet Boat</li> <li>15 River Rescue Team</li> <li>16 Respirators</li> </ul>	2 1 1 50 1 8 3 3 1 2000 100 100 100 100 5	ea ea feet Bag ea ea feet feet ea	1 Hvy & 1 Med Trucks Tankers 50 lbs Trash Pumps & other		Field FID Shape FACILITY_N MANAGER CONTACT TELEPHONE PAGER CELL_PHONE HOME_AFTER LATITUDE	Value           15           Point           McKenzie Fire Station 2           Dale Ledyard           Dana Burwell           541-746-6312           541-349-6074           541-954-2757           541-896-3136           44.06
<ul> <li>3 Rescue Truck</li> <li>4 Water Truck</li> <li>5 Sorbent Pad</li> <li>6 Sorbent Boom</li> <li>7 Sorbent Litter</li> <li>8 Traffic Cones</li> <li>9 SCBA</li> <li>10 Water Pump</li> <li>11 Dive Team</li> <li>12 Hose</li> <li>13 Rope / Cable</li> <li>14 Jet Boat</li> <li>15 River Rescue Team</li> <li>16 Respirators</li> <li>17 PPE</li> </ul>	2 1 1 50 1 1 8 3 1 2000 100 100 100 100 11	ea ea feet Bag ea ea feet feet ea sets	1 Hvy & 1 Med Trucks Tankers 50 lbs Trash Pumps & other		Field FID Shape FACILITY_N MANAGER CONTACT TELEPHONE PAGER CELL_PHONE HOME_AFTER LATITUDE LONGITUDE	Value           15           Point           McKenzie Fire Station 2           Dale Ledyard           Dana Burwell           541-746-6312           541-349-6074           541-954-2757           541-896-3136           44.06           123
<ul> <li>3 Rescue Truck</li> <li>4 Water Truck</li> <li>5 Sorbent Pad</li> <li>6 Sorbent Boom</li> <li>7 Sorbent Litter</li> <li>8 Traffic Cones</li> <li>9 SCBA</li> <li>10 Water Pump</li> <li>11 Dive Team</li> <li>12 Hose</li> <li>13 Rope / Cable</li> <li>14 Jet Boat</li> <li>15 River Rescue Team</li> <li>16 Respirators</li> <li>17 PPE</li> <li>18 Decon Equip</li> </ul>	2 1 1 50 1 8 3 3 1 2000 100 100 100 100 100 100 100 100	ea ea Boxes feet Bag ea ea feet feet feet sets sets	1 Hvy & 1 Med Trucks Tankers 50 lbs Trash Pumps & other		Field FID Shape FACILITY_N MANAGER CONTACT TELEPHONE PAGER CELL_PHONE HOME_AFTER LATITUDE LONGITUDE LONG	Value           15           Point           McKenzie Fire Station 2           Dale Ledyard           Dana Burwell           541-746-6312           541-954-2757           541-896-3136           44.06           123           -122,8241
<ul> <li>3 Rescue Truck</li> <li>4 Water Truck</li> <li>5 Sorbent Pad</li> <li>6 Sorbent Boom</li> <li>7 Sorbent Litter</li> <li>8 Traffic Cones</li> <li>9 SCBA</li> <li>10 Water Pump</li> <li>11 Dive Team</li> <li>12 Hose</li> <li>13 Rope / Cable</li> <li>14 Jet Boat</li> <li>15 River Rescue Team</li> <li>16 Respirators</li> <li>17 PPE</li> </ul>	2 1 1 50 1 8 3 3 1 2000 100 100 100 100 100 100 100 100	ea ea feet Bag ea ea feet feet ea sets	1 Hvy & 1 Med Trucks Tankers 50 lbs Trash Pumps & other		Field FID Shape FACILITY_N MANAGER CONTACT TELEPHONE PAGER CELL_PHONE HOME_AFTER LATITUDE LONGITUDE LONG hypath	Value           15           Point           McKenzie Fire Station 2           Dale Ledyard           Dana Burwell           541-746-6312           541-349-6074           541-954-2757           541-896-3136           44.06           123

Anose an Incident       McGoo Oll Trucking 5       Image register of the second	see a Report Critical Resources Distance Sort <ul> <li>4. Insert Map Image (optional)</li> <li>Cancel</li> </ul> r How Estimate* Med-High Flow 4500-7500 ds *defaults to original estimate   r How Estimate* Med-High Flow 4500-7500 ds *defaults to original estimate   r How Estimate* Med-High Flow 4500-7500 ds *defaults to original estimate    Cancel Cancel <th>kd - ArcMap - Arc'</th> <th>/iew</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	kd - ArcMap - Arc'	/iew									
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Priority         Description         Comment         Y/Latitude         Mile         Time(mins)           Surface Water Intak         Eugene Water & El541-344-6311, x554         541-954-1975         541-344-7098         122.80         24.07         59         3/10 - 12:           Medium         River diversion for power generat         EWEB canal to power house         44.000         151         3/10 - 12:           Medium         River diversion to Cedar Creek         Massocial Treek Associal-77471946         641-954-6721         122.80         12.8.40         151         3/10 - 16:           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.060         44.060           Weight Slough         Weight Slough         River diversion into Keizer Slough         River diversion into Keizer Slough         44.060         44.060           Medium         Industrial Intake on Keizer Sloug         20         20.01         3/10 - 16:         44.060           Medium         Industrial Intake on Keizer Sloug         20         20.02         3/00         3/10 - 16:           Medium         Industrial Intake on Keizer Sloug         20         20.02         3/00         3/10 - 20:           Medium         Industrial Intake on Keizer Sloug         20	Initial description         Comment         V/Latitude         Mile         Time(mins)           rface Water Intak         Eugene Water & El541-344-6311, x554         641-954-1975         641-344-7098         122.750         24.07         59         3/10 - 12:52           edium         River diversion for power generat         EWEB canal to power house         44.080         122.780         124.70         59         3/10 - 12:52           edium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         122.31         294         3/10 - 16:47           edium         River diversion to Keizer Slough         River diversion to Keizer Slough         44.060         12.02         300         3/10 - 16:47           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         12.02         300         3/10 - 17:17           gh         EWEB Municipal Intake         Kugene Water & El541:41:45652         641-534-6721         122.90         10.03         323         3/10 - 17:17           gh         EWEB Municipal Intake         Eugene Water & El541:41:45652         641-931-954:1118         641-461-6946         122.900         0.00         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive <td< th=""><th>McGoo Oil Tru</th><th>ucking S Time: 0</th><th>3/10/2004 11:54:00</th><th>DAM</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	McGoo Oil Tru	ucking S Time: 0	3/10/2004 11:54:00	DAM							
Surface Water Intak         Eugene Water & El541-344-6311, x654         541-364-1875         541-344-7096         122.750         24.07         59         3/10 - 12.           Medium         River diversion for power generat         EWEB canal to power house         44.080         122.80         19.45         151         3/10 - 14.           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         122.80         19.45         151         3/10 - 14.           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.060         44.060           Wegenhauser Intake         Weyerhaeuser Cor541-554-6721         541-554-6721         122.30         12.31         294         3/10 - 16.           Medium         Industrial Intake on Keizer Slough         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.060         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070	frace Water Intak         Eugene Water & El541-344-6311, x554         541-954-1975         541-344-7098         122.750         24.07         59         3/10 - 12:52           edium         River diversion for power generat         EWEB canal to power house         44.080         10         11         11         12:57         24.07         59         3/10 - 12:52           edium         River diversion for power generat         EWEB canal to power house         44.080         12:2.80         19.45         151         3/10 - 12:52           edium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.080         44.080         44.080           rers lough         River diversion to Keizer Slough         River diversion into Keizer Slough         44.080         42.09         12.02         300         3/10 - 16:67           edium         River diversion to Keizer Sloug         20 million GPD industrial use         44.080 <td< td=""><td>Critical Resource</td><td></td><td>Agency Phone</td><td>e Pager</td><td>Cell Phone</td><td>Home After</td><td></td><td></td><td>Travel</td><td>1</td><td>mpaci</td></td<>	Critical Resource		Agency Phone	e Pager	Cell Phone	Home After			Travel	1	mpaci
Waterville Canal Intake         Eugene Water & El541-344-6311, x554         541-954-1975         541-344-7098         122.750         24.07         59         3/10-12:           Medium         River diversion for power generat         EWEB canal to power house         44.080         1         3/10-12:           Medium         River diversion to Cedar Creek Asso 541-747-1946         122.840         19.45         151         3/10-14:           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.070         541-541-541-545-5451-541-545-545	Introvinie Canal Intake         Eugene Water & El541-344-6311, x654         541-954-1975         541-344-7098         122.750         24.07         59         3/10 - 12:52           edium         River diversion for power generat         EWEB canal to power house         44.080         44.	Priority	Description		Comment			Y/Latitude	Mile	Ti me( m	nins)	
Waterville Canal Intake         Eugene Water & El541-344-6311, x554         541-954-1975         541-344-7098         122.750         24.07         59         3/10-12:           Medium         River diversion for power generat         EWEB canal to power house         44.080         1         3/10-12:           Medium         River diversion to Cedar Creek Asso 541-747-1946         122.840         19.45         151         3/10-14:           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.070         541-541-541-545-5451-541-545-545	Introvinie Canal Intake         Eugene Water & El541-344-6311, x654         541-954-1975         541-344-7098         122.750         24.07         59         3/10 - 12:52           edium         River diversion for power generat         EWEB canal to power house         44.080         44.080         44.080           ar Creek Headgates         Cedar Creek         Manual operated headgates to Cedar Cree         44.080	Surface Wate	r Intak									
Medium         River diversion for power generat         EWEB canal to power house         44.000           Cedar Creek Headgates         Cedar Creek Asso 541-747-1346         122.840         19.45         161         3/10-142           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         122.840         19.45         151         3/10-142           Medium         River diversion to Keizer Slough         Weyerhaeuser Cor541-564-6721         541-564-6721         122.950         12.02         300         3/10-162           Medium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         44.060           Hayden Bridge Intake         Eugene Water & El541-341-8652         641-341-7676         641-361-6946         122.980         10.83         323         3/10-172           High         EWEB Municipal Intake         Municipal intake on river         44.070         44.070         44.010         700	edum         River diversion for power generat         EWE B canal to power house         44.000           ar Creek Headgates         Cedar Creek Asso 541-747-1946         122.840         19.45         151         3/10 - 14.25           edium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         122.840         19.45         151         3/10 - 14.25           edium         River diversion to Keizer Slough         Weyerhaeuser Cor541-564-6721         541-564-6721         122.900         12.01         294         3/10 - 16.47           edium         River diversion to Keizer Slough         Weyerhaeuser Cor541-564-6721         541-564-6721         122.900         12.02         300         3/10 - 16.47           edium         Industrial Intake on Keizer Slough         Weyerhaeuser Cor541-654-6721         541-564-6721         122.900         10.83         323         3/10 - 17.17           gh         Ewgen Water & El541-341-8552         541-341-7676         541-954-1118         541-64-6346         122.900         0.00         540         3/10 - 20.54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.070         44.070         0.00         540         3/10 - 20.54           gh         Shallow wells may be impacted from rive	A GURER COMPANY AND THE RESID	To any factor of the second	Eugene Water & El541-3	44-6311. ×554	541-954-1975	541-344-7098	122.750	24.07	59	3/10 -	12:52
Cedar Creek Headgates         Cedar Creek Asso541-747-1946         122.840         19.45         151         3/10 - 14:           Medium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         122.840         12.2.840         12.2.840         12.2.840         12.2.840         12.2.81         234         3/10 - 14:           Medium         River diversion to Keizer Slough         Keizer Slough         44.060         44.060         44.060         44.060         44.060         44.060         44.060         42.990         12.02         300         3/10 - 16:         44.060         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070         44.070 <t< td=""><td>ar Creek Headgates         Cedar Creek Asso541-747-1346         122.840         19.45         151         3/10 - 14:25           edium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.060           ter Slough         Weyerhaeuser Cor541-554-6721         541-554-6721         122.950         12.31         294         3/10 - 16:47           edium         River diversion to Keizer Slough         A4.060         44.060         44.060         3/10 - 16:52           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         3/10 - 16:52           den Bridge Intake         Eugene Water &amp; El541-341-8552         541-341-7676         541-954-9118         541-941-9573         122.040         0.00         540         3/10 - 20:54           edium         Intake of Power Generation         Intake via tunnel to power Plant         44.070         44.070         44.00           blic Wells         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         0.00         540         3/10 - 20:54           oola Well1         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City o</td><td></td><td>0.0.00</td><td></td><td>28 학생님이 있는 유민은 집에 같은 것이 많다.</td><td>10.000.0000.0000</td><td></td><td></td><td></td><td>3575</td><td></td><td></td></t<>	ar Creek Headgates         Cedar Creek Asso541-747-1346         122.840         19.45         151         3/10 - 14:25           edium         River diversion to Cedar Creek         Manual operated headgates to Cedar Cree         44.060         44.060           ter Slough         Weyerhaeuser Cor541-554-6721         541-554-6721         122.950         12.31         294         3/10 - 16:47           edium         River diversion to Keizer Slough         A4.060         44.060         44.060         3/10 - 16:52           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         3/10 - 16:52           den Bridge Intake         Eugene Water & El541-341-8552         541-341-7676         541-954-9118         541-941-9573         122.040         0.00         540         3/10 - 20:54           edium         Intake of Power Generation         Intake via tunnel to power Plant         44.070         44.070         44.00           blic Wells         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         0.00         540         3/10 - 20:54           oola Well1         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City o		0.0.00		28 학생님이 있는 유민은 집에 같은 것이 많다.	10.000.0000.0000				3575		
Marcel automotion         Weyerhaeuser Cor541-554-6721         541-564-6721         12.31         294         3/10 - 16:           Medium         River diversion to Keizer Slough         River diversion into Keizer Slough         44.060         3/10 - 16:           Medium         Industrial Intake on Keizer Slough         River diversion into Keizer Slough         44.060         3/10 - 16:           Medium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         3/10 - 16:           Hayden Bridge Intake         Eugene Water & El541-341-8552         641-354.4776         641-954.1118         641-661-6946         122.960         10.83         323         3/10 - 17:           High         EWEB Municipal Intake         Municipal intake on river         44.070         44.070           Smith Reservoir Inake         Eugene Water & El541-341-8552         641-913-8279         641-341-8673         122.960         0.00         640         3/10 - 20:           Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.370         44.310         22.860         0.00         640         3/10 - 20:           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170         44.170         44.170         44.170<	Start Stough         Weyerhaeuser Cor541-564-6721         541-564-6721         122.30         12.31         294         3/10 - 16:47           edium         River diversion to Keizer Slough         River diversion into Keizer Slough         44.060         44.060         44.060           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         44.060           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         44.070         44.070           gh         EWEB Municipal Intake         Eugene Water & E1541-341-8552         541-341-7676         541-354-6731         122.00         10.83         323         3/10 - 10:57           gh         EWEB Municipal Intake         Municipal intake on river         44.070         44.070         44.070           th Reservoir Inake         Eugene Water & E1541-341-8563         156 (hc 541-913-8279)         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170         44.170 <td>Cedar Creek Headg</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>122.840</td> <td>19.45</td> <td>151</td> <td>3/10 -</td> <td>14:25</td>	Cedar Creek Headg						122.840	19.45	151	3/10 -	14:25
Medium         River diversion to Keizer Slough         River diversion into Keizer Slough         44.060           Weyerhaeuser Intake         Weyerhaeuser Cor541-554-6721         541-554-6721         122.960         12.02         300         3/10 - 16:           Medium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         44.060           Hayden Bridge Intake         Eugene Water & El541-341-8652         541-341-7676         541-954-1118         541-461-6946         122.960         10.83         323         3/10 - 17:           High         EWEB Municipal Intake         Eugene Water & El541-344-6311, x553541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:           Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         44.4310         44.4310           Public Wells           Marcola Well1         Rainbow Water Di:541-746-1676         -122.860         0.00         540         3/10 - 20:           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well3         Rainbow Water Di:541-746-1676         -122.860         0.00         540         3/10 - 20:           High	edium         River diversion to Keizer Slough         River diversion into Keizer Slough         44.060           verthaeuser Intake         Weyerhaeuser Cor541-554-6721         541-554-6721         122.02         300         3/10 - 16:53           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         44.060           den Bridge Intake         Eugene Water & El541-341-8552         541-3767         541-354-1118         541-461-6946         122.980         10.83         323         3/10 - 17:17           gh         EWEB Municipal Intake         Municipal intake on river         44.070         44.070           th Reservoir Inake         Eugene Water & El541-344-6311, x553541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         44.310	Medium	River diversion to Cer	dar Creek	Manual operated headgates	to Cedar Cree		44.060				
Weyerhauser Intake         Weyerhauser Cor541-554-5721         541-554-6721         122.960         12.02         300         3/10 - 16:           Medium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         42.960         122.960         1	Industrial Intake         Weyerhaeuser Cor541-554-6721         541-554-6721         122.960         12.02         300         3/10 - 16.55           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         122.960         12.02         300         3/10 - 16.55           edium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060         122.960         12.02         300         3/10 - 16.55           edium         Eugene Water & El541-341-8552         541-341-7676         541-954-1118         541-461-6946         122.960         10.83         323         3/10 - 17:17           gh         EWEB Municipal Intake         Eugene Water & El541-341-8552         541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.070         0.00         540         3/10 - 20:54           blic Wells         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           cola Well 4         Rainbow Water Di:541-746-1676         122.860	Keizer Slough		Weyerhaeuser Cor541-5/	54-6721	541-554-6721		122.950	12.31	294	3/10 -	16:47
Medium         Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060           Hayden Bridge Intake         Eugene Water & El541-341-8552         541-341-7676         541-954-1118         541-6461-6946         122.960         10.83         323         3/10 - 17:           High         EWEB Municipal Intake         Municipal intake on river         44.070         44.070           Smith Reservoir Inake         Eugene Water & El541-341-6511, x553541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:           Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         - <t< td=""><td>Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060           den Bridge Intake         Eugene Water &amp; El541-341-8552         541-341-7676         541-954-1118         541-461-6946         122.960         10.83         323         3/10 - 17:17           gh         EWEB Municipal Intake         Municipal intake on river         44.070         44.070         44.070           th Reservoir Inake         Eugene Water &amp; El541-344-6311, x553541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.30         44.3</td><td>Medium</td><td>River diversion to Kei</td><td></td><td></td><td>Slough</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Industrial Intake on Keizer Sloug         20 million GPD industrial use         44.060           den Bridge Intake         Eugene Water & El541-341-8552         541-341-7676         541-954-1118         541-461-6946         122.960         10.83         323         3/10 - 17:17           gh         EWEB Municipal Intake         Municipal intake on river         44.070         44.070         44.070           th Reservoir Inake         Eugene Water & El541-344-6311, x553541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.30         44.3	Medium	River diversion to Kei			Slough						
Hayden Bridge Intake         Eugene Water & EI541-341-8552         541-341-7676         541-954-1118         541-461-6946         122.960         10.83         323         3/10 - 173           High         EWEB Municipal Intake         Municipal Intake on river         44.070         44.070         500 </td <td>den Bridge Intake         Eugene Water &amp; EI541-341-8552         541-341-7676         541-354-1118         541-461-6946         122.960         10.83         323         3/10 - 17:17           igh         EWEB Municipal Intake         Municipal intake on river         440.070         10.83         323         3/10 - 17:17           igh         EWEB Municipal Intake         Municipal intake on river         440.070         10.83         323         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         0.00         540         3/10 - 20:54           blic Wells         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           cola Well1         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170         44.170           cola Well3         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           cola Well4         Rainbow Water Di:541-746-1676         12</td> <td>Weyerhaeuser Intak</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>12.02</td> <td>300</td> <td>3/10 -</td> <td>16:53</td>	den Bridge Intake         Eugene Water & EI541-341-8552         541-341-7676         541-354-1118         541-461-6946         122.960         10.83         323         3/10 - 17:17           igh         EWEB Municipal Intake         Municipal intake on river         440.070         10.83         323         3/10 - 17:17           igh         EWEB Municipal Intake         Municipal intake on river         440.070         10.83         323         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         0.00         540         3/10 - 20:54           blic Wells         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           cola Well1         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170         44.170           cola Well3         Rainbow Water Di:541-746-1676         122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           cola Well4         Rainbow Water Di:541-746-1676         12	Weyerhaeuser Intak							12.02	300	3/10 -	16:53
High         EWEB Municipal Intake         Municipal intake on river         44.070           Smith Reservoir Inake         Eugene Water & El541-344-6311, x553541-689-5186 (hc 541-913-8279 541-341-8573 122.040 44.310         0.00 540 3/10 - 203           Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.310           Public Wells         Marcola Well1         Rainbow Water Dis541-746-1676         -122.860 44.170         0.00 540 3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170	gh         EWEB Municipal Intake         Municipal intake on river         44.070           th Reservoir Inake         Eugene Water & EI541-344-6311, x553541-689-5186 (hc 541-913-8279 541-341-8573 44.310         122.040 0.00 540 3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310           blic Wells         Ecola Well 1         Rainbow Water Di:541-746-1676         -122.860 0.00 540 3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           cola Well 3         Rainbow Water Di:541-746-1676         -122.860 0.00 540 3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170           bloo wells may be impacted from rive											
Smith Reservoir Inake         Eugene Water & El541-344-6311, x563541-689-5186 (hc 541-913-8279         541-341-8573         122.040         0.00         540         3/10 - 203           Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         44.310           Public Wells         Marcola Well1         Rainbow Water Dis541-746-1676         -122.860         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well3         Rainbow Water Dis541-746-1676         -122.860         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well4         Rainbow Water Dis541-746-1676         -122.860         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well5         Rainbow Water Dis541-746-1676         -122.850         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170         44.170	Interview         Eugene Water & El541-344-6311, x553541-689-5186 (hc         541-341-8573         122.040         0.00         540         3/10 - 20:54           edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310         44.310         640         3/10 - 20:54           blic Wells         cola Well1         Rainbow Water Di:541-746-1676         -122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         -122.860         0.00         540         3/10 - 20:54           cola Well3         Rainbow Water Di:541-746-1676         -122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170	Hayden Bridge Intal		[10] S. D. Mark, "A Market and the second state of the second s		541-954-1118	541-461-6946		10.83	323	3/10 -	17:17
Medium         Intake for Power Generation         Intake via tunnel to power Plant         44.310           Public Wells         Namosla Well1         Rainbow Water Dis541-746-1676         122.860         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well3         Rainbow Water Dis541-746-1676         122.860         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well4         Rainbow Water Dis541-746-1676         122.850         0.00         540         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170           Marcola Well5         Rainbow Water Dis541-746-1676         122.850         0.00         540         3/10 - 203         3/10 - 203           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         44.170         44.170           Marcola Well5         Rainbow Water Dis541-746-1676         122.850         0.00         540         3/10 - 203           High         Shallow wells may be imp	edium         Intake for Power Generation         Intake via tunnel to power Plant         44.310           blic Wells         cola Well1         Rainbow Water Di:541-746-1676         -122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170											
Public Wells         Marcola Well1       Rainbow Water Di:541-746-1676       -122.860       0.00       540       3/10 - 20:         High       Shallow wells may be impacted from rive       City of Marcola shallow well       44.170	blic Wells       Rainbow Water Di:541-746-1676       -122.860       0.00       540       3/10 - 20:54         gh       Shallow wells may be impacted from rive       City of Marcola shallow well       44.170       44.180       44.180       44.180       44.180       44.180       44.180       4			그 산중 국 의 전기에 걸 안지? 가을 것이 한 열이지 않을까 쉽	그는 그는 것 같은 것은 것은 것을 알고 있는 것이 가지만 같은 것 같아요. 한 것 같은 것 같은 것		541-341-8573		0.00	540	3/10 -	20:54
Marcola Well 1         Rainbow Water Di:541-746-1676         .122.860         0.00         540         3/10 - 20:           High         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170	Cola Well1         Rainbow Water Di:541-746-1676         .122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           oola Well3         Rainbow Water Di:541-746-1676         .122.860         0.00         540         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well         44.170         640         3/10 - 20:54           gh         Shallow wells may be impacted from rive         City of Marcola shallow well	Medium	Intake for Power Gene	eration	Intake via tunnel to power P	lant		44.310				
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#### McGoo Spill Critical Resources Map





## Response Status @ 1225 Hours

- Accident assessed, traffic stopped, material identified as waste oil, culvert plugged
- Driver died in accident
- Tow truck, HazMat team, ODOT response team in route
- Downstream critical resources alerted and estimated travel times provided
- Equipment found and in route to implement Strategies 19, 18, and 17.



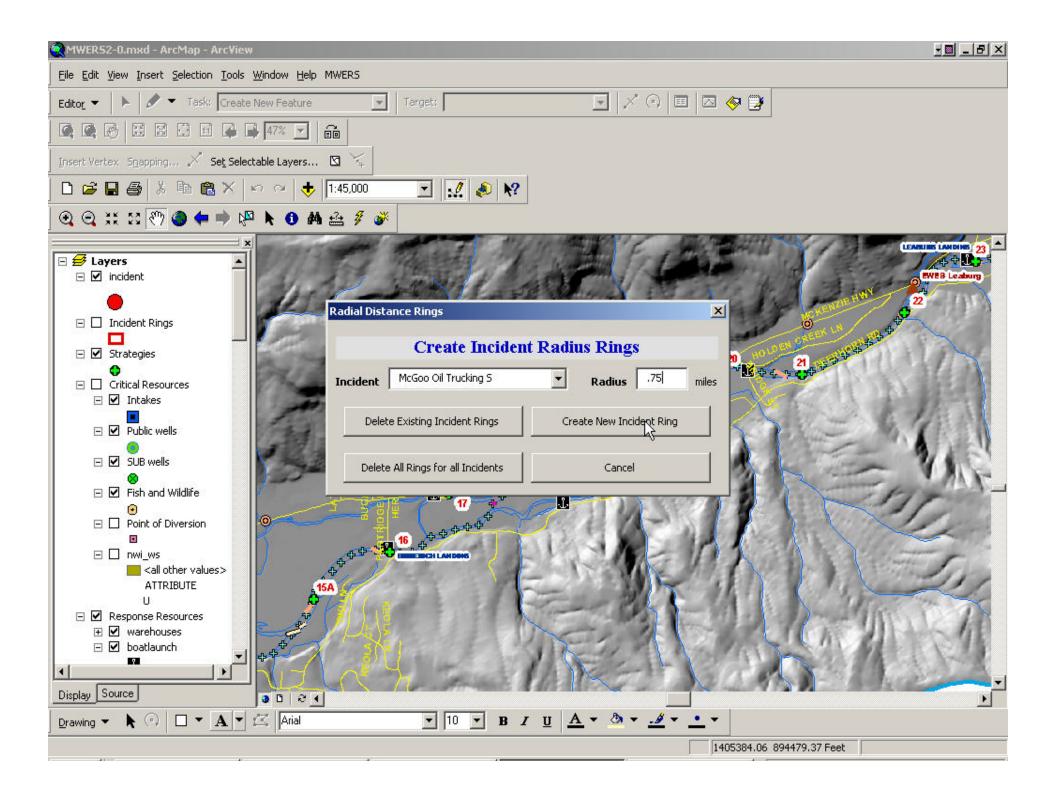


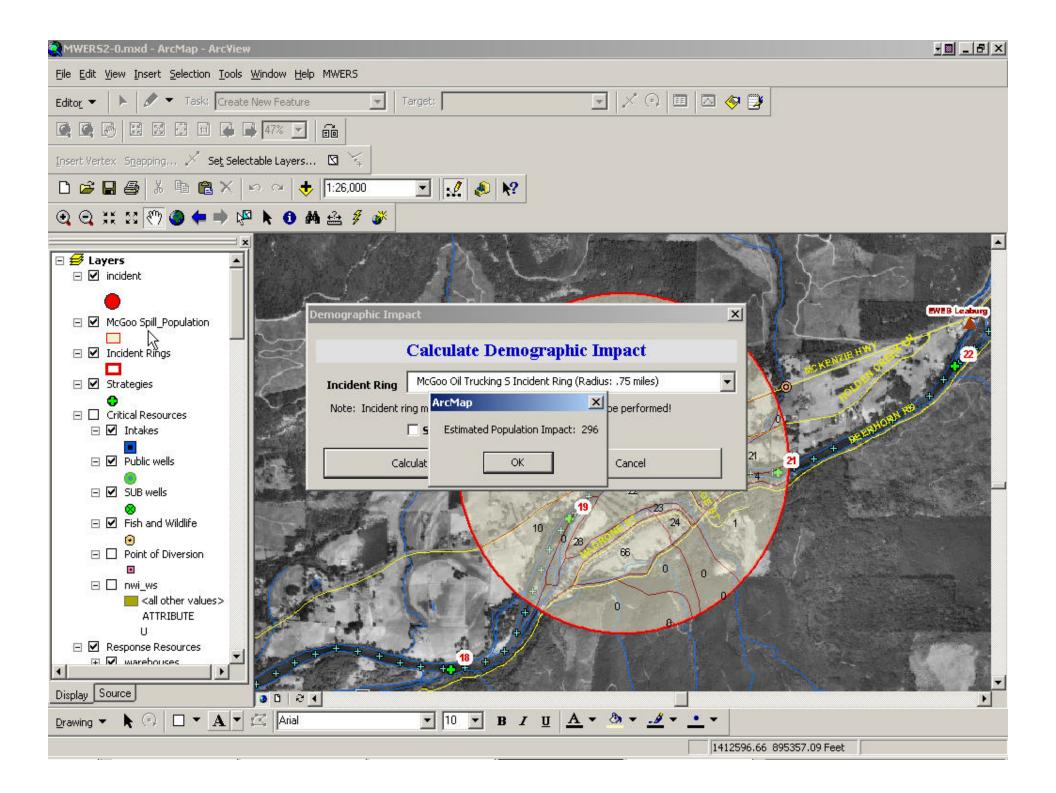


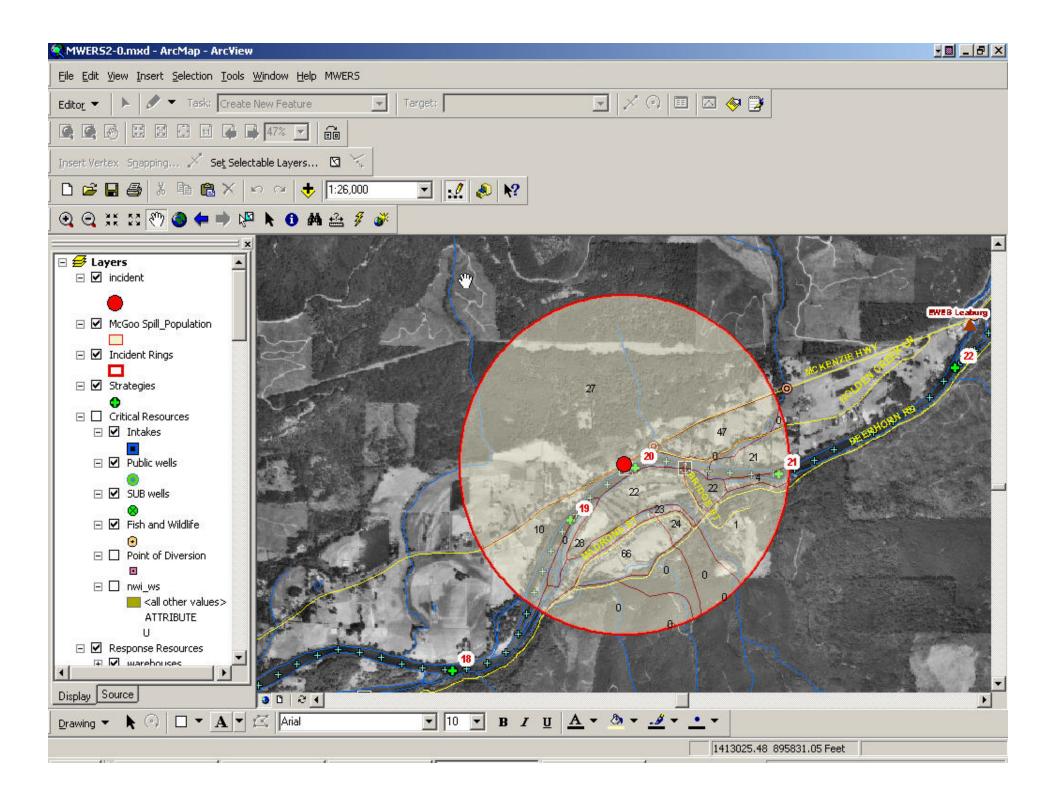


















## What Actually Happened

- Truck spilled 5,800 gallons bunker oil into Yaquina River
- Over 12 hours to start initial spill response
- Problems finding boom, could not get to site (located upriver, highway closure)
- 2-3 days passed before real cleanup started
- Delay caused bunker to sink as tar balls
- Large area impacted, \$1.2 million cleanup

## **MWERS** Role in a Response

- Used by first responders during the emergent phase of a spill (<24 hours).
- Allows quick deployment of an effective response by first responders to stabilize a spill and minimize damage until additional resources can be mobilized.
- After emergent phase of spill, MWERS can be integrated and used as part of ICS/Unified Command in Planning Division, Situations Unit.

#### Other Uses of GIS-Based Plan

- Excellent for multi-agency planning efforts
- Identify spill/chemical release "hot spots"
- Determine equipment staging areas
- Makes design of drills/exercises easy
- Good foundation for other emergency response planning efforts
- Easy to update and distribute new data and information.

# McKenzie – EWEB's Life Blood

