

THURSTON COUNTY STEWARDSHIP DEPARTMENT  
NOXIOUS WEED UNIT

HEALTH AND SAFETY PLAN

**Survey and Removal Activities 2011**

Prepared for: Thurston County Noxious Weed Department

Prepared by:

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9 May 2011

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Prepared By \_\_\_\_\_ Date \_\_\_\_\_  
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## EMERGENCY CONTACTS AND GENERAL PROCEDURES

**Call local EMS and DAN (diving emergency) first in case of a medical emergency**

**Use only professional emergency medical transport for all reportable injuries**

**Telephone emergency:** 9-1-1 and DAN 1-919-684-8111

**Thurston County Sheriff: 360-786-5500**

**Nearest land telephone (complete for specific location):**

### **Field Contacts**

Diving Safety Officer (with phone number):

Michael Kyte, Day office: 360-438-8687, Home: 206-365-4707, Cell: 206-910-4617

Alternate Diving Safety Officer: Dennis Lucia. Day office: 360-455-5099, Cell: 360-701-8817

On-site Designated Person in Charge: Dan Reynoldson office: 786 5576, Cell: 485 8707

[Reynoldson@co.thurston.wa.us](mailto:Reynoldson@co.thurston.wa.us)

Thurston County Noxious Weed Coordinator: Rick Johnson office 786 5576 Cell: 280 0388

[Johnsor@co.thurston.wa.us](mailto:Johnsor@co.thurston.wa.us) home 705 3683

**U.S. Nearest Dive Emergency Medical Facility:** Virginia Mason Hospital, Hyperbaric Medicine Department, 1202 Terry Ave., Seattle, WA 98111 **206- 583-6543** (map attached).

**U.S. Nearest Non-dive Emergency Medical Facility in Thurston County:** Providence St. Peter Hospital, 413 Lilly Raod N.E. Olympia WA 98506-5166 (map attached).

### **GENERAL EMERGENCY PROCEDURES**

1. Determine nature of emergency.
  2. Determine hazards to personnel. **Maintain safe environment to the extent possible for all personnel.**
  3. **Immediately call 911 for emergency medical assistance for any reportable injury.**
  4. In the event of life-threatening or traumatic injury, implement appropriate CPR, first aid, and/or emergency oxygen.
  5. Use Emergency Medical Services transport (e.g., Medic 1, ambulance service) for all reportable on-site injuries.
  6. Report the incident as soon as practical and within 24 hours if first aid was administered and/or EMS was called, to the Thurston County Noxious Weed Coordinator:
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7. Complete and submit the near miss and/or injury/illness reports as appropriate, according to the TCNWD Injury Reporting Policy (report form accompanies this HASP).

### **LOCATION OF AVAILABLE EMERGENCY EQUIPMENT**

- First aid with CPR mask
- Disaster kit (food, water, blanket, heat pack) and emergency warm clothing
- Emergency oxygen kit (bottle, regulator, mask)

**DIVE TEAM EMERGENCY CONTACT INFORMATION**

Employee/Subcontractor	Primary Contact	Phone Number
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED] [REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

**1.0 Health and Safety Plan (HASP)**

The purpose of this HASP is to identify hazards associated with this project and specify engineering and administrative controls and personal protective equipment necessary to mitigate the risks associated with these hazards. This HASP addresses the hazards recognized prior to writing this document and the Thurston County Noxious Weed Department (TCNWD) Diving Safe Practices Manual (DSPM).

When accompanied by the TCNWD DSPM, this HASP satisfies the requirements of the State of Washington Labor and Industries, Safety Standards for Diving Operations 296-37 WAC Standards for Commercial Diving Operations and the U.S. Occupational Safety and Health Administration’s (OSHA) Standard 29 CFR 1910 Subpart T. All activities covered by this HASP must be conducted in complete compliance with this HASP and with all applicable federal, state, and local health and safety regulations.

**In order to comply with OSHA and the State of Washington Department of Labor and Industries, both the TCNWD DSPM and this HASP must be at the site at all times when underwater activities related to the specific project are conducted.**

**2.0 Organization/Responsibility: “Anyone can stop operations; only one person can start operations”**

The implementation of health and safety at a specific work location will be the shared responsibility of the TCNWD Diving Safety Officer (DSO), the on-site Designated Person in Charge (on-site DPIC), the TCNWD Coordinator, and all other workers. If work is halted due to a safety issue, only the on-site DPIC, DSO, or TCNWD Coordinator can direct work to be started again once the safety issue is addressed.

### **3.0 Daily Pre-Work Briefing/Tailgate Meetings**

#### 3.1 Attendance and Documentation

Prior to the commencement of daily project activities, a pre-work briefing or tailgate meeting will be conducted. The divers will review the specific requirements of this HASP, review and revise as appropriate the Job Safety Analysis (JSA), discuss incidents, near misses and lessons learned from previous activities, and discuss site conditions that have changed since the previous trip to the site. Attendance at the daily tailgate meeting is mandatory for all personnel covered by this HASP at the site and must be documented on the attendance form provided on the next page. All documentation should be maintained in the project file.

3.2 Daily Health and Safety Briefing Attendance Form

**Thurston County Noxious Weed and Environment Survey Operations**

<b>Topics Discussed:</b>	Review of the content of the HASP (Required)
	Tasks to be undertaken and personnel assignments
	Emergency and routine communication
	Review safety procedures for the planned diving mode
	Check cell phone reception
	Brief team on any hazards and environmental conditions characteristic to the work site
	Modifications to standard operating procedures due to hazards, environmental conditions, or other factors
	Job Hazard & Safety Analysis with time and task-specific operations and conditions likely to affect safety
	Review of Emergency Response Plan
	Near miss and injury/illness reporting and investigation procedures
	Team members state of health and fitness to work/dive
	Check personnel emergency contact information
	Input from each team member
	Dive Tender/on-site DPIC Gear Check (to be performed before each dive)

- **NOTE: All workers are encouraged to ask questions and intervene if unsafe practices or conditions are observed.**
- **NOTE: Any diver who does not feel fit for diving will not be required to dive on that dive.**

Briefing by:	Date/Time	Date/Time	Date/Time	Date/Time
Attendees (Printed)	Initials	Initials	Initials	Initials

## 4.0 Description of Work

### 4.1 Site Description

Typical works sites are all under 25 feet of ffw, with the average over the past three seasons 10.27 feet. Little or no currents are present at all sites for all activities. Vegetation encountered may be dense mats that could pose a diving hazard.

The potential for fouling could occur from:

- Fishing line, anchor line, downed trees or limbs, fishing nets, old car bodies, etc.

Overhead hazards may occur from limbs of trees, snags in the water, docks, bridges, fishing or recreational boating.

### 4.2 Objectives, Tasks, and Activities

The TCNWD will conduct in-water or underwater operations only in conjunction with the control of aquatic noxious weeds. All in-water activities will be conducted in water depths of less than 30 feet and in water currents less than 1 knot. These operations may include the following activities, diving modes, and environmental conditions (e.g., maximum depths and water current conditions):

#### 4.2.1 Snorkeling and Scuba

- A. Survey only in lakes; diving mode: scuba with normal breathing air or snorkeling; maximum depth: 25 feet freshwater (ffw)<sup>1</sup>; water current: none.
- B. Survey only in rivers to assess and/or monitor aquatic plant conditions; diving mode: snorkeling; maximum depth (breath hold dives): 6 ffw; water current: less than 1 knot.
- C. Ecological community surveys for assessment, monitoring, and/or sampling; diving mode: snorkeling or scuba; maximum depth: 25 ffw; water currents: none or less than 1 knot.

Two divers will work as a “buddy team” from a single boat. A third person may be present for boat tending purposes. The tender will be the DSS. The divers will stay in visual contact.

#### 4.2.2 Surface Supplied

- A. Removal of plant material by hydraulic dredging; maximum depth: 25 ffw;
- B. Invasive aquatic plant removal from lakes all dives; maximum depth: 20 ffw; water currents: none.

Two or more divers will conduct plant material removal operations. Because of the shallow depths, the tender may serve as the backup diver and DPIC. Live Boating will not be conducted. All removal operations will be conducted from an anchored vessel.

## 5.0 Hazard Recognition, Control, and Emergency Procedures

### 5.1 General

TCNWD aquatic vegetation survey and control activities will not be conducted in environments where chemical hazards (polluted water or sediments) are present.

The potential hazards of the proposed activities include:

- Traffic during mobilization and demobilization
- Normal and known hazards of scuba diving

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<sup>1</sup> Indicated depths are as measured by a diver's depth gauge or dive computer.

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- Commercial and recreational boat traffic
- Hypothermia from exposure to cold water and weather
- Overheating (hyperthermia) and thermal stress due to exposure to sun and warm weather
- Weather causing hazardous winds or thunder storms containing lightning
- Fouling and punctures from fishing tackle
- Entanglement and impact from wood, glass, or metal debris
- Overhead hazard from docks, bridges, support vessels, logs, and vegetation

### 5.2 Boat Operations with Divers

Vessels will be used to support personnel working in or underwater performing a variety of tasks. It is important to the health and safety of all on-site workers that the following procedures and protocols be followed:

#### 5.2.1 Liveboating

“Liveboating” is defined as “The practice of supporting a surface-supplied air or mixed gas diver from a vessel which is underway” (WAC 296-37-5-5(22)) (underlining added). The TCNWD Coordinator and DSO must be informed and full safety procedures written and implemented prior to any liveboating. Liveboating in conjunction with surface supplied diving will only be conducted in an emergency. In addition, the use of a mobile boat (“live boat”) in conjunction with non-tethered scuba diving will follow procedures 1-4; it must be noted that Procedure 5 cannot be followed because of the lack of a “diver’s hose” (umbilical or tether).

At a minimum, the following safety procedures will be followed:

1. Liveboating shall not be conducted. in rough seas that significantly impede diver mobility or work function or the maneuverability of the support vessel
2. Liveboating shall not be conducted in other than daylight hours.
3. The propeller of the vessel shall be stopped while the diver enters or exits the water.
4. A SS diver engaged in liveboating emergency operations shall carry a diver-carried reserve breathing gas supply.
5. A device shall be used which minimizes the possibility of entanglement of the diver's hose. Two-way voice communication between the tender(s) and the person controlling the vessel shall be available while the diver is in the water.

In an emergency, a standby diver other than the operator of the vessel shall be suited and ready while a diver is in the water..

#### 5.2.2 Boat Scuba Diving

For free-swimming (divers are not connected to the support vessel by a line or umbilical) scuba diving operations, the vessel may be anchored or freely operated by the supervisor/tender.

- An underwater loud speaker capable of transmitting either voice or a recall tone will be used for direct voice communications with the dive team to provide instructions for safety and operations. This unit can and will be used from a vessel or from shore using a buoy to support the hydrophone off bottom.
- At all diving locations, whether operations are conducted using a vessel or from shore, the recreational diver's flag (red with a diagonal white stripe) and the Code Alpha flag must be displayed prominently displayed from the diving support vessel and/or using a flag buoy(s).
- Anchored vessels shall be securely anchored as close to the site of operations as is practical, downstream of the site, and a flag buoy (a buoy with a mast) will be streamed from the boat. The tender shall maintain a constant watch on the divers' bubbles or other position marker and be prepared to assist the dive team.

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- If the divers are tended without the vessel being anchored, the operator should use the following procedures to avoid incidental and harmful contact:
  - Drop the divers off upstream of the work site
  - Remain downstream of the divers while the divers are underwater.
  - Maintain a safe distance from the divers that will allow maneuvering without overrunning the divers' position.
  - Keep a constant watch on the divers' bubbles or other position marker indicating the position of the divers.
  - At no time should the vessel be brought directly over the divers.
  - Approach divers on the surface only after making direct eye contact and establishing communication (hand signs or voice) with the divers except where a diver is in obvious distress.
  - Wait to approach divers for retrieval until the entire dive team is on the surface, except in planned or emergency situations.
  - For pickup, approach the divers on the surface from downwind or down current; the tender should assist the divers aboard.
  - During drop off or pickup when the divers are in close proximity of the boat, the engine(s) should be in neutral or turned off.

### **5.3 Personal Protective Equipment**

In addition to the normal and standard protective equipment used for scuba diving in cold water, the following equipment will be used for this work:

- Personnel on boats where deck perimeter protection (i.e., handrails) is not present, must wear personal Flotation Devices (PFDs). PFDs must be U.S. Coast Guard certified as a Type I, II, or III. On skiffs or other small boats without handrails, all personnel that are not wearing a closed dive suit (dry or wet) must wear a Coast Guard-approved PFD.
- All personnel are required to wear appropriate footwear that is supportive and with a good sole; slip-on shoes, shower sandals, or other open-toe or open-top footwear will be not be allowed during project activities. Steel toe footwear is not required.
- Personnel working on deck where overhead hazards are present must wear hardhats to prevent injury from falling materials or impacts with structures, logs, or vegetation.

**5.4 Job Safety Analyses: Be Aware of the Work Environment and Be Prepared**

5.4.1 Scuba Diving and Surface Supplied

❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
A. Mobilizations and Demobilizations	<ol style="list-style-type: none"> <li>1. Traffic – personnel and equipment transport</li> <li>2. Lifting</li> </ol>	<ol style="list-style-type: none"> <li>1. Obey traffic laws, drive defensively, allow sufficient time for travel.</li> <li>2. Use proper lifting procedures</li> </ol>	<ol style="list-style-type: none"> <li>1. Traffic accident, unavoidable long delays</li> <li>2. Injury</li> </ol>
B. Scuba or SS Diving	<ol style="list-style-type: none"> <li>3. Lifting</li> <li>4. Recreational and commercial boat traffic</li> <li>5. Falling overboard</li> <li>6. Slip, trip, fall</li> <li>7. Heat stress</li> <li>8. Adverse weather</li> <li>9. Uncontrolled or too rapid ascent</li> <li>10. Out of air emergency</li> <li>11. Diver partner separation</li> <li>12. Fouling or impact with fishing tackle, logs or other debris, vegetation, or structures</li> <li>13. Arterial gas embolism (AGE)</li> </ol>	<ol style="list-style-type: none"> <li>3. See # 2 above</li> <li>4. Follow safe boating practices, diving support vessel will have all appropriate safety equipment, use dive flags (sport and commercial) and other warning devices</li> <li>5. All personnel will wear appropriate personal flotation devices when on board the support vessels and away from the dock.</li> <li>6. Be aware of obstructions and conditions; keep work areas neat</li> <li>7. All personnel will use appropriate thermal protection and maintain hydration.</li> <li>8. Terminate operations in the case of wind, wave, thunder storm, or current conditions that interfere with safe diving and tending procedures</li> <li>9. Properly weight all divers, maintain gear</li> <li>10. Dives will be terminated with sufficient air for the diver to reach the surface and inflate the diver's buoyancy control device; see Scuba Emergency Procedure for Loss of Air.</li> <li>11. Divers will remain in contact with each other while working underwater; Scuba Emergency Procedure for Separated Diver.</li> <li>12. Divers will carry sharp knives to cut fishing line; all personnel will be vigilant for wood and other debris; divers and boat operators will avoid overhead hazards</li> <li>13. Divers should surface no faster than 40 to 50 ft/min or according to individual dive computers.</li> </ol>	<ol style="list-style-type: none"> <li>3. Injury</li> <li>4. Aggressive or uncooperative vessel operator</li> <li>5. Incident, recover and treat victim</li> <li>6. Injury</li> <li>7. Incident, treat victim</li> <li>8. Small Craft Advisory or stronger winds</li> <li>9. Incident or injury</li> <li>10. Injury</li> <li>11. Separation</li> <li>12. Injury</li> <li>13. Injury</li> </ol>

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5.4.2 Driving

❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
<b>PRE-TRIP</b> – Review Journey Management Plan, traffic, and weather conditions. Assess driver level of experience.	Review likely and worst potential outcomes for vehicle operation (accidents, injury, death; planned route, weather)	<ul style="list-style-type: none"> <li>• Driver should be licensed for the vehicle they are operating.</li> <li>• Identify the hazards (Weather, night driving, traffic, etc.</li> <li>• Assess the potential hazards, analyze how to reduce the risk, act to ensure safe operation of the vehicle.</li> <li>• Allow time for safe travel, and for longer trips.</li> <li>• Plan breaks outside of gasoline stops.</li> </ul>	<ul style="list-style-type: none"> <li>• Severe weather.</li> <li>• Inexperience d driver.</li> <li>• Vehicle out of service.</li> <li>• Traffic conditions.</li> </ul>
Complete vehicle pre-trip inspection	Slips, trips, and falls	<ul style="list-style-type: none"> <li>• Check vehicle contains appropriate safety/emergency supplies (first aid kit, blanket, jumper cables, flash light, flares/warning devices, bottled water, tool kit, and additional equipment as needed for climate/terrain)</li> <li>• Check tires, horn, turn signals, lights both head and rear, defroster, windshield, wiper function, under vehicle carriage and engine compartment (oil/break and other fluids)</li> <li>• Adjust seat, mirrors and steering wheel.</li> </ul>	<ul style="list-style-type: none"> <li>• Deficiencies discovered in pre-trip inspection rendering the vehicle unserviceabl e.</li> <li>• No spare tire.</li> <li>• Lack of sufficient emergency supplies.</li> </ul>
Fasten seat belts	Increased risk of serious injury or death in an accident if improper or no seat belt use. Ejection from vehicle in accident or unwanted vehicle intrusion.	<ul style="list-style-type: none"> <li>• Everyone in the vehicle will have their seat belt fastened at all times when the vehicle is in motion.</li> <li>• Verify and inspect that all seat belts are in proper working condition.</li> <li>• All doors will be locked while the vehicle is in motion.</li> </ul>	<ul style="list-style-type: none"> <li>• Seat belts are not functional or not being worn.</li> <li>• Locks do not work.</li> </ul>
Pulling out of a parking space	Collision, injury or death to occupants or pedestrians, vehicle and property damage	<ul style="list-style-type: none"> <li>• Check mirrors, over shoulder, (behind you prior to backing up), get out and walk around the vehicle if necessary,</li> <li>• When two people are available, always have one stand outside and spot for the driver backing up.</li> <li>• Signal if parallel parked.</li> </ul>	<ul style="list-style-type: none"> <li>• Blind spots.</li> <li>• No spotter available.</li> </ul>

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❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
<p><b>DURING TRIP</b></p> <p>While driving: Keep your eyes moving</p>	<p>Collision, injury or death to occupants or other parties, vehicle and property damage.</p>	<ul style="list-style-type: none"> <li>• Move eyes at least every two seconds, scan major and minor intersections before entry (left-right-left).</li> <li>• Check mirrors when slowing or stopping scan mirrors frequently (one every 5-8 sec).</li> <li>• Avoid staring while evaluating road conditions; maintain adequate spacing between your vehicle and the one in front of you (4 sec, about one car length for every 10 mph, double the distance in poor driving conditions).</li> <li>• Watch for ice- slow down before hitting ice, keep foot off of the brake.</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient mirrors.</li> <li>• Missing or broken mirrors.</li> <li>• Poor weather.</li> </ul>
<p>While driving: Aim high in steering</p>	<p>Collision, injury or death to occupants or other parties, and vehicle damage.</p>	<ul style="list-style-type: none"> <li>• Maintain 15 sec eye lead time (1 ½ blocks in city traffic, ¼ mile in highway traffic), assess condition of traffic lights (fresh or stale), assess information from distant objects, adjust eye lead to speed, watch for ice, accidents, disabled vehicles, slow-downs, and objects in roadway.</li> </ul>	<ul style="list-style-type: none"> <li>• Collision</li> </ul>
<p>While driving: Leave yourself an out</p>	<p>Collision, injury or death to occupants or other parties, and vehicle damage.</p> <p>High traffic congestion</p> <p>Road Closures</p>	<ul style="list-style-type: none"> <li>• Maintain safety cushion around vehicle (front, sides, rear), adjust vehicle space and speed to avoid unsafe intrusion by other drivers, at signal controlled intersections- stop 10ft behind crosswalk/other vehicles, at stop sign controlled intersections- approach stop sign cautiously and ascertain if cross traffic has to stop- stop at or just behind the crosswalk/ limit line.</li> <li>• When stopped, allow vehicle in front to move for two seconds before accelerating. Observe approaching merge areas and choose lane of least resistance. Cede right of way and allow other vehicles to merge, change lanes, make turns, etc.</li> <li>• Watch for ice on road.</li> <li>• Exit the road/highway to safe area to park the vehicle and evaluate alternative routes of travel.</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic congestion such that would not allow safe travel on the road/highway being traveled.</li> <li>• Road closures</li> </ul>

Thurston County Noxious Weed Survey and Removal Operations – 2011 HASP

❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
While driving: Get the big picture	Collision, injury or death to occupants or other parties, and vehicle damage.	<ul style="list-style-type: none"> <li>• Avoid being unnecessarily boxed in. Avoid sudden acceleration and deceleration. Maintain minimum 4 sec following distance.</li> <li>• Adjust speed to traffic conditions, scan immediate and adjacent lanes before merging.</li> </ul>	<ul style="list-style-type: none"> <li>• Collision.</li> </ul>
While driving: Make sure other drivers can see you	Collision, injury or death to occupants or other parties, and vehicle damage.	<ul style="list-style-type: none"> <li>• Seek eye contact with other drivers, cover or use horn when conditions warrant.</li> <li>• Before changing lanes signal well in advance, check mirrors and over shoulder, and allow adequate space before changing lanes.</li> <li>• Break early to activate break lights, stay out of blind spots.</li> <li>• Gently sound horn or flash lights if unsure other driver sees you and is potentially going to cause a collision.</li> <li>• Turn on headlamps in high traffic areas, at dusk, and in inclement areas.</li> <li>• Do not over drive what you can see with your headlights.</li> <li>• Increase the distance between you and the vehicle in front of you at night.</li> </ul>	<ul style="list-style-type: none"> <li>• Collision</li> </ul>
When backing up	Collision, injury or death to occupants or other parties, and vehicle damage.	<ul style="list-style-type: none"> <li>• Make all backing maneuvers slowly and cautiously. Check mirrors and over shoulders), get out of vehicle or use spotter if necessary. When parking look for pull-through parking to avoid backing and spots away from high vehicle and foot traffic.</li> </ul>	<ul style="list-style-type: none"> <li>• No Spotter.</li> <li>• Collision.</li> </ul>
While driving	Collision, injury or death to occupants or other parties, and vehicle damage.	<ul style="list-style-type: none"> <li>• Always focus on driving.</li> <li>• Stop driving if you become distracted or are tired or fatigued.</li> <li>• Refrain from conducting involved or emotional discussions while driving – end the conversation or pull over to the side of the road if it becomes difficult to concentrate on driving while conversing with your passengers.</li> <li>• Cell phones to be used not at all or with hands free devices</li> </ul>	<ul style="list-style-type: none"> <li>• Too tired to drive.</li> <li>• Cellular phone being used by driver.</li> </ul>

Thurston County Noxious Weed Survey and Removal Operations – 2011 HASP

❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
Parking	Collision, injury or death to occupants or other parties, and vehicle damage	<ul style="list-style-type: none"> <li>• Park away from other cars.</li> <li>• Back into parking spot when possible and safe.</li> <li>• Maintain cushion of safety from fixed objects.</li> <li>• Set parking break</li> </ul>	<ul style="list-style-type: none"> <li>• Parking spots are too narrow for the vehicle.</li> </ul>

5.4.3 Boat Operations

❶ Job Steps <sup>1</sup>	❷ Potential Hazards <sup>2</sup>	❸ Critical Actions <sup>3</sup>	Stop Work Criteria
A. Mobilizations and Demobilizations	<ol style="list-style-type: none"> <li>1. Traffic – personnel and equipment transport</li> <li>2. Lifting</li> </ol>	<ol style="list-style-type: none"> <li>1. Obey traffic laws, drive defensively, allow sufficient time for travel, use cell phones only with hands free device when moving.</li> <li>2. Use proper lifting procedures (and Section 5.3)</li> </ol>	<ol style="list-style-type: none"> <li>1. Traffic accident, unavoidable long delays</li> <li>2. Injury</li> </ol>
B. On water operations	<ol style="list-style-type: none"> <li>3. Mechanical breakdown, grounding</li> <li>4. On-board fire</li> <li>5. Lifting</li> <li>6. Boat traffic</li> <li>7. Falling overboard</li> <li>8. Slip, trip, fall</li> <li>9. Thermal stress</li> <li>10. Adverse weather including thunder/lightning</li> </ol>	<ol style="list-style-type: none"> <li>3. File a “float plan” with TCNWD Coordinator or other concerned person; check in when work is complete; use vessel assist commercial service if available.</li> <li>4. Use vessel fire extinguishers, contact Coast Guard and declare emergency, terminate all diving operations, assemble personnel with PFDs at evacuation points</li> <li>5. See # 2 above and Section 5.3</li> <li>6. Follow safe boating practices, obey Rules of the Road, use common sense (give way to larger and/or less maneuverable vessels)</li> <li>7. All personnel will wear appropriate personal flotation devices when on board a support vessel and on an open deck.</li> <li>8. Be aware of obstructions and conditions; keep work areas neat</li> <li>9. All personnel will use appropriate thermal protection and maintain hydration.</li> <li>10. Terminate operations in the case of wind, wave, thunder storm, or water current conditions that interfere with safe boat operations</li> </ol>	<ol style="list-style-type: none"> <li>3. Mechanical breakdown, out of fuel, serious leaking, grounding</li> <li>4. On board fire</li> <li>5. Injury</li> <li>6. Aggressive or uncooperative vessel operator, collision</li> <li>7. Incident, recover and treat victim</li> <li>8. Injury requiring EMS</li> <li>9. Injury requiring EMS, treat victim</li> <li>10. Small Craft Advisory or stronger winds; thunder storm or lightning observed on horizon and moving towards job site.</li> </ol>

## **5.5 Lifting and Moving Heavy Objects**

Using the proper techniques to lift and move heavy pieces of equipment, such as scuba tanks and diver weight systems and other equipment, is important to reduce the potential for back injury. Proper ergonomic procedures are also important in assembling equipment and assisting divers.

The following precautions should be implemented when lifting or moving heavy objects:

- Use mechanical devices (e.g., cart) to move objects.
- Bend at the knees, not the waist. Let your legs do the lifting.
- Do not twist while lifting.
- Bring the load as close to you as possible before lifting.
- Be sure the path you are taking while carrying a heavy object is free of obstructions and slip, trip and fall hazards.

## **6.0 Emergency Response**

### **6.1 Rescue and Medical Duty Assignments**

Prior to initiating work at the site, a TCNWD field team member, usually the on-site DPIC, shall be appointed to activate emergency response actions. In the event an injury or illness requires more than first aid treatment, that individual will accompany the injured person to the medical facility and will remain with the person until release or admittance is determined. The escort will relay all appropriate medical information to the DSO and TCNWD Coordinator.

If the injured employee can be moved from the accident area, he or she will be transported to shore at a location as directed by emergency medical services. If the person is suffering from a back or neck injury, the person will not be moved except by trained and certified emergency response personnel unless site conditions are immediately life threatening. The DSS must familiarize responding emergency personnel about the nature of the site and the injury.

### **6.2 Injuries and Illnesses**

#### **6.2.1 Contact EMS**

The phone numbers of the police and fire departments, ambulance service, local hospital, and TCNWD representatives are provided in the emergency reference sheet on Page 1 of this HASP

#### **6.2.2 First Aid**

Minor injuries will be treated on site using materials from the first aid kit or other local sources. All cuts and abrasions will be cleaned with potable water and a clean dressing applied. The injured employee will be evaluated at the end of the workday and the following day when the employee arrives at the project site to determine whether the wound has started the healing process. The wound will be protected from contamination during the project activities.

### **6.3 Incident Reporting and Investigation**

Any incident (other than minor first aid treatment) resulting in injury, illness, or property damage requires an incident investigation and report. The investigation should be conducted as soon as emergency conditions are under control. The purpose of the investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided. An TCNWD incident investigation form is present in Attachment C of this HASP. The injured TCNWD employee's supervisor, the DSO, and the TCNWD Coordinator should be notified immediately of the injury.

If a contractor employee is injured, they are required to notify the TCNWD Coordinator or DSO. Once the incident is under control, the subcontractor will submit a copy of their company's incident investigation report to the TCNWD DSO and Coordinator.

### 6.4 Thurston County Emergency Response Plan

	<b>EMBOLISM (AGE), Type 1 DCS, Type 2 DCS (bends) &amp; TYPE-2 DCS (Bends)</b>	
Diver or member of support crew receives an injury requiring medical attention.	Embolism —diver will be in extreme distress or possibly unconscious. All AGE symptoms should be treated in a chamber.	
Dive Supervisor/Tender Responsibilities	Dive Supervisor/Tender Responsibilities	
<ul style="list-style-type: none"> <li>• Treat injuries &amp; stabilize</li> <li>• Give CPR if required</li> <li>• Control bleeding if required</li> <li>• Call EMS @ 911</li> <li>• Describe Injuries</li> <li>• Give Location</li> <li>• Request EMS transport if appropriate</li> <li>• Transport patient to staging location or nearest access to EMS</li> </ul>	<ul style="list-style-type: none"> <li>• Give CPR if required</li> <li>• Treat Diver with 100% Oxygen</li> <li>• Call EMS @ 911</li> <li>• Describe injuries, signs, and symptoms</li> <li>• Give Location</li> <li>• As directed by EMS, call Virginia Mason Hospital ER at 206-583-6433</li> <li>• Transport patient to staging location or nearest access to EMS</li> <li>• Give neurological examination</li> <li>• Shelter diver &amp; keep warm</li> </ul>	
<u>Contact information</u> <u>Thurston County</u> <u>DAN</u>	<b>EMERGENCY EVACUATION PLAN TO VIRGINIA MASON</b>	
<ul style="list-style-type: none"> <li>• 9-1-1</li> <li>• Thurston County Sheriff</li> <li>• 360-786-5500</li> <li>• <b>Divers Alert Network:</b> 24 Hours 919-684-8111</li> </ul>	Dive Team Emergency Contacts: see for contact information on Page 4.  TCNWD Physician: Use local hospital Emergency Room services or call personal physician of the injured person (no TCNWD dive physician has been designated or is available until further notice).	<ol style="list-style-type: none"> <li>1. Contact EMS and notify nature of emergency</li> <li>2. Treat patient per plan and transport to shore to a point designated by emergency services or the closest to an appropriate medical facility.</li> <li>3. If directed by EMS, contact receiving hospital selected by EMS and notify of incoming patient via air lift</li> <li>4. EMS will receive patient and transport to selected hospital</li> </ol>

**NOTE: DO NO FURTHER HARM! Avoid rapid ascent, as it will increase chance of AGE. Take care when extricating injured diver.**

## 7.0 Scuba Emergency Procedures

### 7.1 SCUBA EP for LOSS OF AIR

OPERATOR	PROCEDURE
Diver:	<ul style="list-style-type: none"> <li>• If the primary regulator fails, shift to bailout or secondary regulator, terminate dive, notify your buddy, and surface immediately.</li> <li>• Another source of air is your buddy – octopus or buddy breathing.</li> </ul>
Buddy Diver:	<ul style="list-style-type: none"> <li>• Proceed to stricken diver; be ready to offer your octopus or start buddy breathing.</li> <li>• Assist with secondary regulator or bailout bottle.</li> <li>• Terminate the dive. Both divers make a controlled ascent to the surface.</li> </ul>

#### OPTIONS AND CONSIDERATIONS

*WARNING*

A dropped weight belt or a partially inflated BC or dry suit can contribute to an uncontrolled ascent. Divers must attempt to breathe normally or exhale continuously during any ascent. Uncontrolled ascents can result in over inflation injuries.

If the diver makes an emergency ascent, observe for AGE for at least one hour. The diving supervisor must assess for signs and the diver must report symptoms.

### 7.2 SCUBA EP for SEPARATED DIVER

OPERATOR	PROCEDURE
Diver & Buddy Diver:	<ul style="list-style-type: none"> <li>• When you realize you are separated, attempt to communicate with your buddy.</li> <li>• Stop what you are doing and look 360° and overhead.</li> <li>• If you cannot locate your buddy, come up 10' and look 360° and overhead again.</li> <li>• If you still cannot locate your buddy, surface, and have topside direct you to him/her.</li> <li>• If you are lost, return to the surface. Signal the pick up boat.</li> </ul>

#### OPTIONS AND CONSIDERATIONS

The search should proceed in a logical manner from the diver's last known location. The first step with good visibility is a surface search for bubbles. The supervisor needs to take into consideration the currents in the work area.

7.3 SCUBA EP for IN WATER TRAUMA or INJURY

OPERATOR	PROCEDURE
Diver:	<ul style="list-style-type: none"> <li>• Inform buddy of the situation.</li> <li>• Terminate the dive.</li> <li>• As soon as possible, notify surface personnel.</li> <li>• Consider activating EMS.</li> </ul>
Buddy Diver:	<ul style="list-style-type: none"> <li>• Assist injured diver as necessary.</li> <li>• Remove the diver from the cause of injury, if it is safe to do so.</li> <li>• Apply pressure to any bleeding.</li> <li>• Terminate the dive and stay with the injured diver.</li> </ul>

OPTIONS AND CONSIDERATIONS

- Evaluation of diver’s condition and extent of injury cannot be effectively done until the diver is on the surface. The first priority is to get the diver out of the water.
- The buddy or standby diver should remain with the injured diver until he returns to the surface and is safely in the boat.
- Call early for medical assistance, establish communications, and call for evacuation (evacuate under pressure if necessary). Prompt action is always necessary in severe trauma cases. Be prepared to handle a diver in shock.

7.4 SCUBA EP for UNCONSCIOUS DIVER

OPERATOR	PROCEDURE
Buddy Diver/Rescuer:	<ul style="list-style-type: none"> <li>• Verify diver's air supply and that the diver is unconscious.</li> <li>• An unconscious, non-breathing victim whether submerged or on the surface is in imminent danger of death.</li> <li>• Because resuscitation cannot be delivered underwater, the first consideration of the rescuer should be to get the diver to the surface.</li> <li>• Make a controlled ascent to the surface facing the unconscious diver.</li> <li>• Make every effort to maintain an open airway and keep the unconscious diver's mask clear while ascending.</li> <li>• Begin towing unconscious diver towards surface personnel.</li> <li>• Notify surface personnel as soon as possible without leaving injured diver.</li> <li>• Ask surface personnel to have oxygen ready and notify EMS.</li> </ul>

OPTIONS AND CONSIDERATIONS

1. Do not ditch scuba gear unless it is fouled. Proceed to the surface keeping the mouthpiece in place. Make a controlled ascent to the surface facing the injured diver. Make every effort to maintain an open airway and keep the mask clear while ascending.
2. Be prepared to perform rescue breathing, oxygen administration, and CPR upon surfacing. Carefully examine the diver for any signs or symptoms of DCI.
3. Divers who are unconscious on the bottom then surface and regain consciousness must be thoroughly evaluated for AGE. Place on oxygen and transport to a medical facility. If the diver has been unconscious underwater, he may have aspirated seawater.

**8.0 SS Emergency Procedures**

8.1 SS EP-1 Fouled or Entrapped Diver

- Provide diver a reasonable amount of time to clear himself.
- Standby diver immediately prepare to enter the water
- In the event he is unable to free himself, the standby diver will enter the water to assist.
- Once diver is free, if shaken or standby diver was required to go to his assistance, terminate dive

8.2 SS EP-2 Loss of Air

- The Tender will switch to the standby supply at the dive manifold and immediately surface the diver.
- Standby diver (if present) should be alerted to the situation and ready to assist the diver as required
- If the diver is not receiving air from the standby supply, he should be instructed to go to the bailout air supply and surface in a controlled manner.

8.3 SS EP-3 Severance of Divers Umbilical

- The diver shall be alerted to the situation and immediately instructed to go to the bailout air supply and surface in a controlled manner.
- Standby diver immediately prepare to enter the water

#### 8.4 SS EP-4 Loss of Voice Communications

- Go to line pull signals and surface the diver.
- Standby diver immediately prepare to enter the water
- If line pull signals cannot be established, then the standby diver will enter the water and swiftly advance following the primary diver's umbilical hoses to aid the primary diver in his ascent to the surface.

#### 8.5 SS EP-5 In-Water Trauma or Injury

- Diver to immediately inform topside of nature and extent of injury
- Standby diver immediately prepare to enter the water
- Dive is terminated and diver surfaces either by himself or with the aid of the standby diver.
- Proper ascent rates (40 fpm) should be followed except when the severity of the injury indicates a greater risk than possible over expansion or decompression injuries.
- Initiate emergency response plan.

#### 8.6 SS EP-6 Unconscious Diver

- Standby diver shall immediately be deployed to assist the unconscious diver to the surface.
- Surface with the victim in an upright position, hold them near the head.
- Once on shore/diving platform assess the condition of the victim and take appropriate first aid measures.
- Initiate emergency evacuation plan.

#### 8.7 SS EP-7 Fire in Surface Equipment on or near dive station

- Extinguish fire and secure equipment
- Terminate dive and surface the diver
- Standby diver immediately prepare to enter the water and standby until diver is retrieved
- Tender remain at station and monitor diver's condition and progress of fire

#### 8.8 SS EP-8 Equipment failure with diver in the water

- Dive Master and Diver to evaluate effect of failure on diver.
- Alert standby diver and topside crew.
- Standby diver immediately prepare to enter the water
- Inform diver of plan of action.
- Immediately terminate dive if equipment failure involves or effects life support equipment

## 9.0 Emergency Contacts and Hospitals

### 9.1 General Directions

- **Ambulance Service/Emergency Medical Services:** 9-1-1
- **Police:** 9-1-1
- **Fire:** 9-1-1

#### **DIVING EMERGENCY HOSPITAL (CALL EMS FIRST):**

Virginia Mason Hospital, Hyperbaric Medicine Department: **206-583-6543**

1202 Terry Ave., Seattle, WA 98101 (see map and driving directions in Section 8.4).

#### **LOCAL NON-DIVE HOSPITAL: Providence St. Peter Hospital, Olympia**

413 Lilly Road N.E., Olympia, WA 98506-5166, 360-491-9480; 1-888-492-9480 (toll free)

- **DIRECTIONS TO HOSPITALS: SEE SECTIONS 9.3 AND 9.4**
- **Call local EMS and DAN (diving emergency) first in case of a medical emergency**
- **Use only professional emergency medical transport for all on site reportable injuries requiring more than first aid**
- **Nearest Onsite Phone: various marinas or other initial staging locations**
- **Cell phones required.**

### 9.2 TCNWD Representatives:

Thurston County Noxious Weed Coordinator: Rick Johnson

TCNWD Diving Safety Officer: Nisqually Aquatic Technologies (Dennis Lucia, General Manager; Michael Kyte, Diving Safety Officer)

### 9.3 Non-Dive Emergency Medical Facilities: Emergency Medical Services: Olympia

#### Providence St. Peter Hospital, Olympia

413 Lilly Road N.E., Olympia, WA 98506-5166

360-491-9480; 1-888-492-9480 (toll free)



#### Driving Directions to Providence St. Peter Hospital (Olympia)

- From I-5 North Bound
- Take exit 107 for Pacific Ave
- Keep right at the fork, follow signs for Lacey and merge onto Pacific Ave SE
- Turn left at Lilly Rd SE

#### From I-5 South Bound

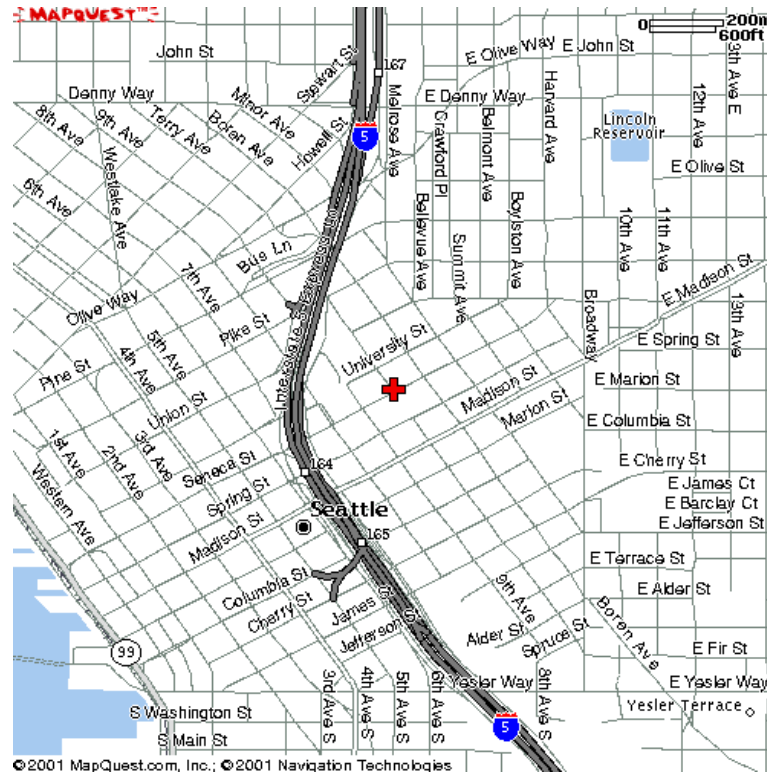
- Take exit 109 for Martin Way toward Sleater-Kinney Rd N
- Turn right at Martin Way E (signs for Sleater-Kinney Rd N)
- Turn right at Lilly Rd NE

9.3.1

9.4 **Dive Emergency Medical Facility: Virginia Mason Hospital, Hyperbaric Medicine Department**

1202 Terry Ave., Seattle, WA 98101

206-583-6543



**Driving Directions to Virginia Mason Hospital  
From the Des Moines Marina to I-5 N**

- Start out going on Dock St. toward S 227th St..
- Turn left onto S 227TH ST.
- Turn right onto Marine View Dr S. / WA-509
- Stay straight to go onto S Kent Des Moines Rd / WA-516.
- Merge onto I-5 N toward Seattle.

**Traveling north on I-5:**

1. Take Exit 164A, Madison Street
2. Turn right on Madison
3. Turn left on Ninth Avenue

**Traveling south on I-5:**

1. Take Union Street exit
2. Turn right on 7th Avenue
3. Turn right on Pike Street
4. Turn right on 8th Avenue
5. Turn left on Seneca Street

## 10.0 Supervisor's Incident Investigation Report<sup>2</sup>

Injured Employee \_\_\_\_\_ Job Title \_\_\_\_\_

Date/Time of Incident \_\_\_\_\_

Location of Incident \_\_\_\_\_

Witnesses to the Incident \_\_\_\_\_

Injury Incurred? \_\_\_\_\_ Nature of Injury \_\_\_\_\_

Engaged in What Task When Injured? \_\_\_\_\_

Will Lost Time Occur? \_\_\_\_\_ How Long? \_\_\_\_\_ Date Lost Time Began \_\_\_\_\_

Were Other Persons Involved/Injured? \_\_\_\_\_

How Did the Incident Occur? \_\_\_\_\_

What Could Be Done to Prevent Recurrence of the Incident? \_\_\_\_\_

What Actions Have You Taken Thus Far to Prevent Recurrence? \_\_\_\_\_

TCNWD Coordinator

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Reviewer's Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_

<sup>2</sup> Note: If the space provided on this form is insufficient, provide additional information on a separate page and attach. The completed Incident investigation report must be submitted to the TCNWD Coordinator and/or DSO within two days of the occurrence of the incident.

## DIVER QUALIFYING CHECKOUT

<b>Candidate Diver</b>			
<b>Examining Person(s) and Authority</b>			
<b>Date</b>		<b>Location</b>	
<b>Conditions</b>			
<b>Credentials (complete prior to diving)</b>			
<b>Open water certification</b>	<b>Year</b>	<b>Agency</b>	
<b>Dive log (12 dives in last 3 years)</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Physical Examination</b>	<b>Date</b>	<b>Approved for Diving</b>	
<b>CPR/First Aid Certifications</b>	<b>CPR date</b>		<b>1st Aid date</b>
<b>Oxygen Administration</b>	<b>Date</b>	<b>Source</b>	
<b>DART</b>	<b>Date</b>	<b>Source</b>	
<b>Other</b>	<b>Date</b>	<b>Source</b>	
<b>Additional Certifications (see attached if necessary)</b>	<b>Type</b>	<b>Date</b>	<b>Source</b>
<b>Skills</b>	<b>Completed Successfully</b>	<b>Examiner Comments</b>	
<b>Assembly and disassembly of appropriate scuba gear</b>			
<b>Descent to 25 feet</b>			
<b>Underwater Navigation</b>			
<b>Multitask:</b> navigate, count, monitor dive gear, communicate			
<b>Ability to communicate</b>			
<b>ADDITIONAL COMMENTS ON PERFORMANCE</b>			

## SNORKELING CHECKOUT PROCEDURES

Date \_\_\_\_\_ Location of Checkout \_\_\_\_\_

Conditions \_\_\_\_\_  
 \_\_\_\_\_

Divers \_\_\_\_\_

Certifying Person & Authority \_\_\_\_\_

Reason for certification \_\_\_\_\_

<b><i>Safety Equipment/Information</i></b>	Yes	No	Why Not?
Dive Plan			
Dive Flag			
CPR/First Aid Certifications			
Thermal protection			
First Aid Kit			
PFD			
Signaling Device for each diver & support person			
Telephone			
Throwable floatation			
Emergency Contact Numbers			
Hospital Map			

<b><i>Skills</i></b>	<b>Divers Performance</b>
----------------------	---------------------------

Surface snorkel of 1,000 feet using a mask (keeping face in the water) and a snorkel for breathing \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Complete submergence of the head and effective clearing of the snorkel without removing equipment from the mouth, to be completed at least twice in the 1,000 feet. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Remove and replace mask at surface \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Free-dive to a depth of 10 feet or greater and retrieve an object from the bottom, bring the object to the surface, clear snorkel without removal, and repeat \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Ability to communicate in water to support and team personnel \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





Diving w/Large Surface Platform: Lakes

Company: Thurston County Noxious Weed Control	Location: Various throughout freshwater sites	Date: Dive operations are during the summer/fall months	Page 1 of 1	Site locale: Black, Lake, Blue lake, Clear Lake, Deep Lake, Long Lake, Chehalis River
Diving Mode: SCUBA			Breathing gas: air	
Thermal protection: wetsuit/drysuit	Diving equipment: diver check valve. Positive diver attachment point that can hold the diver's weight without allowing the diver to slip out of the harness. Independent back up air supply, Dredge hose, Surface dive operations platform			
Job or task: <b>Using an underwater dredge, diver removes invasive weeds from or selected areas</b>				
<b>Basic Job steps</b>  1. Survey area 2. Establish grid 3. Operate dredge	<b>Potential Hazards</b>  1. Diver out of air 2. Communications lost 3. Diver Entrapment 4. Air embolism 5. Dive equipment failure 6. Prop entanglement for diver 7. Logs or debris floating 8. Low visibility 9. Hypothermia 10. Hyperthermia 11. Other medical emergencies 12. Natural disaster a. lighting	<b>Recommended safe procedures</b>  Diver Training program that includes : Out of air, communications lost, entrapment, air embolism, equipment failure, prop avoidance, low visibility, dive planning, hypothermia, hyperthermia, First aid Oxygen Safety drills Safe boat driving operations Surface lookouts for debris and boats Natural disaster scenario training	<b>Responsibility</b>  Each dive team member is accountable for recognizing hazards and providing safe procedures to avoid them.  DPIC is responsible for all aspects of the operations that day.  Dive Supervisor has the ultimate and autonomous responsibility for dive operations.	
Dive team members:		Dive team members residual gas: All divers must be free of residual gas prior to participating in diving operations for that day.		
Prepared by: Dan Reynoldson				



Dredge Diving w/Large Surface Platform: Rivers

Company: Thurston County Noxious Weed Control	Location: Various rivers/lakes throughout Thurston County	Date: Dive operations are during the summer/fall months	Page 1 of 1	Site locale: List all River/lakes sites here:
Diving Mode: Surfaced Supplied with Communications			Breathing gas: air	
Thermal protection: wetsuit/drysuit	Diving equipment: Surfaced supplied umbilical with communication, diver check valve. Positive diver attachment of umbilical at the point that can hold the diver's weight without allowing the diver to slip out of the harness. Non lockdown, Full face mask, Independent back up air supply, Dredge hose, Surface dive operations platform			
<b>Job or task: Using an underwater dredge, diver removes invasive weeds from or selected areas</b>				
<b>Basic Job steps</b>  1. Survey area 2. Establish grid 3. Operate dredge	<b>Potential Hazards</b>  1. Diver out of air 2. Communications lost 3. Diver Entrapment 4. Umbilical entrapment 5. Air embolism 6. Dive equipment failure 7. Prop entanglement for diver and umbilical 8. Logs or debris floating 9. Low visibility 10. Hypothermia 11. Hyperthermia 12. Currents 13. Other medical emergencies 14. Natural disaster: Lightning?	<b>Recommended safe procedures</b>  Diver Training program that includes : Out of air, communications lost, entrapment, air embolism, equipment failure, prop avoidance, low visibility, dive planning, hypothermia, hyperthermia, currents dive planning First aid Oxygen Safety drills For each region that diving takes place Safe boat driving operations Surface lookouts for debris and boats Natural disaster scenario training	<b>Responsibility</b>  Each dive team member is accountable for recognizing hazards and providing safe procedures to avoid them.  DPIC is responsible for all aspects of the operations that day.  Dive Supervisor has the ultimate and autonomous responsibility for dive operations.	
Dive team members:		Dive team members residual gas: All divers must be free of residual gas prior to participating in diving operations for that day.		
Prepared by: Dan Reynoldson		Approved by:		

# Thurston County Noxious Weed Control Diving Equipment Maintenance Report

Date:

<b><i>Air Tanks</i></b>	Visual (Date)	Hydro (Date)	Notes:	Inspected by:
02A04				
09A99				
7A84				
3AL3000				
07A91				
09A99				
A20018947				
A20019230				

<b><i>Buoyancy Compensator</i></b>	Buoyancy Operation (Date)	Water Test (Date)	Condition of Buckles & Quick Releases	Notes:	Inspected by:
US Divers/Cousteau					

<b><i>Regulators</i></b>	Function	Reading	Notes:	Inspected by:
#1	IP Pressure			
	Purge Volume			
	Inhalation Effort			
	First Stage Creep			
	Dive Computer Function			
	Hoses	Condition		
	High Pressure			
	Low Pressure			
	Buoyancy Compensator			
	Drysuit			

Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:

<b><i>Regulators</i></b>	Function	Reading	Notes:	Inspected by:
#2	IP Pressure			

	Purge Volume			
	Inhalation Effort			
	First Stage Creep			
	Dive Computer Function			
	Hoses	Condition		
	High Pressure			
	Low Pressure			
	Buoyancy Compensator			
	Drysuit			
Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
<b><i>Regulators</i></b>	Function	Reading	Notes:	Inspected by:
#3	IP Pressure			
	Purge Volume			
	Inhalation Effort			
	First Stage Creep			
	Dive Computer Function			
	Hoses	Condition		
	High Pressure			
	Low Pressure			
	Buoyancy Compensator			
	Drysuit			
Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
<b><i>Full Face Mask</i></b>	Function	Reading	Notes:	Inspected by:
	IP Pressure			
	Purge Volume			
	Inhalation Effort			

	Condition of hose:		Notes:	Inspected by:
Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:

<b><i>Surface Supplied Equipment</i></b>	Part	Condition	Notes:	Inspected by:
	Hoses			
	Accumulation Tank			
	Check Valves			
	Fittings			
	Gauges			
Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:

<b><i>Dry Suit</i></b>	Part	Condition	Notes:	Inspected by:
	Seals			
	Valves			
	Zipper			
Parts Replaced:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:
Approved for Use:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Notes:	Inspected by:

