



# SWAT

Shoreline **W**eed **A**ttack **T**eam Created by Sandy Engel






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## To Pull or Not to Pull Considerations


- » Guidance from DNR &/or qualified diver (AIS experience)
- » Feasibility
  - LABOR INTENSE!!
  - Volunteer pool – ongoing project
  - Outside expertise/training

## Site Assessment Survey

- » Time of year/Size/Location
- »  Initial/Pretreatment survey\*
  - Participate whenever possible
- » When/Where to Begin-Ask the Experts
- »  Indicates high visibility to public. 

\*Picking your applicator – Do your homework! Ask other lake associations. Interview & ask for list of other references! (Northern Aquatic Services- See Credits)

# Training Volunteers

- Don't try this at home! Seek professional advice!!!
- Train divers, snorkelers, walkers together
- Demonstrate pulling techniques on natives (limited)
- Accurate ID of EWM and look-a-likes
  - » **Shadowing, Peer-to-Peer Learning**
  - » **Stress sight and touch**
  - » **Incidental learning of look-a-likes**
- Assess skill level
- Milfoil diver's motto, "When in doubt, pull it out." (caution)
- Safety protocol – Applies to divers & snorkelers
- Encourage family members/onlookers to join in!! 


# Dive Preparation

(at least 30 min. in advance)



- Line up SWAT team (location/rain date)
- Contact residents - parking, dock, use of restrooms, road & lake markers 🖐️
- Post signs - alerting boaters at boat landings (private & public) 🖐️
- Note conditions: Season, wave action, overcast, sunny, wind direction, time of day, sediment
- Mark outside perimeter – bright, large buoys/flags 🖐️
- Mark plants (single, clump, bed) – marker buoys OR
- Grids/Lanes - lathe markers (48")
- Safety check of area
- Equipment – Assemble before arrival of team



# INTRODUCING OUR SWAT TEAM

- Topsiders 
  - pontoons/boats
    - Traffic control
    - Plant disposal
    - Exchange bags
    - Netters
    - Rest area
  - Kayaks/Canoes
    - Stay close to divers
    - Bag exchange
    - Netters
- Pullers (Buddy system)
  - Divers
    - 6-12' Work lanes or markers
    - Monitored by Netters to avoid straying and bag exchange
  - Snorkelers
    - 3-6' Work lanes or markers
    - Netters for divers
  - Walkers
    - Work shoreline
    - Netters (use pole extensions)

# Tools of the Trade

- ✓ Nets – skimmer & deep nets-Pool supply Co.
- ✓ Sheets (pontoon)
- ✓ Mesh bags
- ✓ Butterfly/skimmer nets
- ✓ Fluorescent Signs for pontoons-SWAT team 
- ✓ Diver Flags 
- ✓ Bags-Feed, onion, burlap
- ✓ Iron bar for diver contact
- ✓ Plastic Bottles w/ string & weight or marker buoys
- ✓ Containers-5 gal. or garbage can
- ✓ Food & beverages
- ✓ Cell phone
- ✓ Lathe bundle (48")
- ✓ Fun noodles
- ✓ Extra towels
- ✓ Extra snorkel gear
- ✓ Swim goggles (shallow dives)
- ✓ Sunscreen
- ✓ Water shoes

# *Manual Removal Strategies*

## ~ Sediment

- \* Muck- Stirs up bottom (turbidity)
  - Move to new area, then return
  - Move slow, avoid touching bottom
  - Remove flippers?
  - Work on knees?
- \* Sand – difficult to remove root crown-garden trowel

## ~ Disposal

- \* Partially fill garbage cans/buckets w/ water for easy removal of EWM from nets
- \* Turn nets/bags inside out to reuse

## ~ Pulling Techniques

- \* Dig around root crown & stolons (runners).
- \* Arm/wrist Wrap – Gently wrap plant around arm
- \* Swim Pull – Remove root crown, place in bag & capture plant while swimming
- \* Vertical Bagging-(narrow plants) Pull Lg. bag over plant from top down. (may need 2 people)
- \* Mark “stopping point”

>>After draining water from bags & removing from lake area, weeds can be thoroughly dried and composted

# Monitor, Monitor, Monitor!!!

- Monitoring is crucial to the success of any EWM management strategy implemented. It must go hand-in-hand with all other control methods
- It must be an ongoing process that continues all season long, both above and below the water.
- Above-water monitoring requires skill and repetition. Youth are quick learners at identifying EWM.
- New or recurring beds need to be marked using a GPS or other method.
- Make your monitors visible 🖐️ to others!! (t-shirts, signs)



# Value of Networking

- Learn new methods from others
- Find new ideas for equipment
- Share names, emails, etc.
- Locate businesses
- Things happening locally, regionally, nationally
- New research
- Help others get started

# Volunteers-Recruitment

- Lake Association (meetings, newsletters, website), Door-to-Door in infested areas, Fire Dept, Diving Clubs, Newspapers, Follow up leads, Flyers in town 🙋
- During your dives be sure Topsiders & walkers are doing PR, handing out business cards/flyers, and taking names
- Sales Pitch – Save your Lake, Family activity, set your schedule, rewarding, choice of jobs. “So, when would be a good time for you?”
- Youth are a valuable asset-Quick learners, draw in family, future lake leaders!!!

# websites

- **Washington State-Dept. of Ecology**  
<http://www.ecy.wa.gov/programs/wq/links/plants.html>
  - Go to “Aquatic Plant Management”
- **John Madsen - Army Research & Development**  
<http://www.aquatics.org/pubs/madsen2.html>
- **“google©” eurasian water milfoil hand pulling**
- **DNR.gov** This will bring up many DNR websites
- **Each of these sites will lead you to other links**

# Supplies

**#1 Skimmer \$11**



**#2 Marker buoys \$6.50** **#2 Underwater viewer \$66**



**#4 Underwater viewer \$40**



**“Do-it-yourself”**  
**<<PVC pipe & plexiglass**  
**5 gal. bucket & plexiglass>>**

**#5 Underwater viewer \$24**



**#1 [poolsupplies.com/maintenance/hand-skimmers.asp](http://poolsupplies.com/maintenance/hand-skimmers.asp)**

**#2 [basspro.com](http://basspro.com) – Search “marker buoys”**

**#3 [marisafe.com/store](http://marisafe.com/store) – Search “underwater viewer”**

**#4 <http://www.aquaspy.com.au/>**

**#5 <http://www.boatersworld.com/product/476981790.htm>**

# *Credits*

## Photos

- Dennis O'Hara  
-northernimages.com  
- GeoAnn  
- Ashland Daily Press  
- Rick Olivo

## Services

- Northern Aquatic Services  
*Weed Control on Lakes & Ponds*  
Dale Dressel  
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