Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States (UMPS)

Minnesota Aquatic Invaders Summit
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Pacific States Marine Fisheries Commission
Authorized by Congress in 1947, the Pacific States Marine Fisheries Commission (PSMFC) is one of three interstate commissions dedicated to resolving fishery issues.

Member States: California, Oregon, Washington, Idaho, and Alaska

Aquatic Invasive Species Program Since 1999

Main Species of Concern: Zebra and Quagga Mussels
Zebra/Quagga Mussels are the #1 Invasive Species Threat to the Columbia River Basin, both Ecologically and Economically
Trailered Watercraft:
The highest risk vector

Source: Idaho Dept. Ag./S.Cox
Map of Watercraft Inspection Stations in Western N. A.

Proposed Watercraft Inspection Stations (by type):
- Highway Inspection Station
- Roving Inspection Stations
- Waterbody Inspection Stations (2015)
- Source Decontamination Station

2015

DRAFT

Waterbody Inspection Stations (2012 data, most still active)
- California Ag. Inspection Stations - (24/365)
- California Ag. Inspection Stations - (various operating times)

Contaminated Dreissenid Watercraft Intercepted by State

2012 vs. 2013 vs. 2014 (draft)
(N = 352)  (N = 219)  (N = 187)

- California
- Lake Powell (CCWR)
- Colorado
- Wyoming
- Idaho
- Lake Tahoe
- Montana
- Oregon
- Arizona
- Utah
- Washington
- Lake Whatcom, WA
- New Mexico
- Nevada
- BC
- AB
Note: Data does not include 1000’s of intercepted HIGH RISK vessels (i.e. 30 day)
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BRIEF HISTORY

- Bill Zook and Wen Baldwin are the “fathers” of UMPS (Bill primary author)
- Methods: UMPS was developed through an extensive literature search and review; survey of watercraft interception programs and AIS coordinators; experience and feedback gained from watercraft inspection and decontamination trainings @ Lake Mead
- Includes the contributions, comments and edits of more than 100 “experts”
- Western Regional Panel on Aquatic Invasive Species has a WIDT Committee overseeing development of UMPS III
WATERCRAFT INSPECTION AND DECONTAMINATION TRAINING (WIT/WID)

- UMPS is taught by PSMFC /WRP/100th Meridian Initiative Watercraft Inspection and Decontamination Level Two Training
- conducted @ Lake Mead by D Davis (AKA “Quagga D”) who took over the leadership of the program from Wen Baldwin in 2013.
- www.westernais.org/training
Why UMPS?

- Neither mussels nor boaters recognize jurisdictional boundaries.
- Your program is only as good as your neighbors, we all need to encourage and support the implementation of the most effective region-wide interception strategies.
- Increase effectiveness by everyone using the best available science and technology.
- Build trust in and between programs in order to maximize efficiency and use of limited resources.
- Make programs more consistent to reinforce the prevention message with boaters, the public, law makers and policy makers.
- Make it easier for the boating public to understand, anticipate and comply with “clean boating” principles.
QZAP/BC

The Quagga Zebra Action Plan (2010) recognizes as one of its highest priority action items “the development of consistent inspection and decontamination protocols”

In the past two years Western AIS agencies have been involved in a q/z prevention effort called “Building Consensus in the West: A Multi-state Vision For Watercraft Inspection Programs” (BC)

One of the key elements of BC is for states to have the tools to trust one another to expand and refine Interstate reciprocity for watercraft management (trust your neighbor)
UMPS CAVEATS

- Living document subject to periodic and systematic updating

- “Minimum” protocols and standards, more restrictive options discretionary

- Recognizes the need for additional peer reviewed research on the effectiveness of currently recommended protocols and standards for watercraft decontamination (e.g., Wong)

- Addresses the wide range of “capacity” currently available to the many different implementing agencies/organizations

- The document is not “binding”, but rather is to be used as a standard

- “A watercraft interception program by itself is not sufficient to gain public involvement, support and cooperation. Public outreach and education should be the cornerstone of all state, federal and local mussel prevention programs.”
UMPS II Report

Recommendations for:

- Program levels – Recognizes vast differences in individual entities “capacity” e.g. authority, resources, political and public support, etc.

- Protocols and Standards for:
  - Screening interviews – Standardize questions
  - Inspection – When, where and “how to” for various watercraft/equipment types and conditions
  - Decontamination – Equipment, protocols and standards
  - Quarantine – Calculations, options and qualifiers (ballast)
  - Exclusion – Last resort option where other, more user-friendly options, aren’t available
  - Certification - When, where, how and cross-jurisdictional coordination
  - Seaplanes
Program Levels

Self Inspection Programs (mandatory/voluntary)

Low risk waters where implementation “capacity” is limited

Low cost, foot in the door

Screening out high risk watercraft

Assures that no high risk watercraft are allowed to launch by screening-out all watercraft that are not clean, drained and dry

Screening interview and limited inspection but no comprehensive inspection or decontamination services provided

Comprehensive Interception Program

Preferred: includes screening, inspection, decontamination, quarantine and possible certification (banding)
Basics: Watercraft/Equipment Inspection

- Adopt and use a checklist of watercraft parts/areas to guide inspection
- Include trailer, propulsion system and accessories in the inspection
- Be systematic; starting at point “A” and ending at point “B” to assure complete coverage
- Use the inspection as an opportunity to educate the owner/operator

- Require decontamination, quarantine (combination) or exclude
  - If attached mussels (dead or alive), standing/trapped water or attached vegetation (including algae accumulation) are found
  - have been in mussel positive waters/areas in the past 30 days

- Watercraft/equipment that have been successfully decontaminated and followed applicable quarantine requirements (dried) should be allowed to launch
Watercraft/Equipment Decontamination

- Strongly consider total containment/ treatment option – low cost systems available (UMPS II does not have detail on wastewater management)

- Be systematic and thorough including all parts/areas and accessories
Standards:

- Hot water pressure washer set to achieve 140°F at point of contact
- Maintain contact for at least **** 10 sec. ***
- 5 seconds for quagga mussels
- 10 seconds for zebra mussels (leading to trailing edge) on all exposed surfaces, 60 sec. contact time for hard to access areas;
  - Min. 5 gpm at 3,000 psi or greater (not to exceed 3,500 psi)
- Use pressure washer attachments
  - flushing sensitive areas and cooling system (UMPS has time requirements and temps for flushing)
- Drain then treat (hot water) all areas of standing, trapped, stored water
  - (“Interior” water; e.g. Ballast Tanks, require special attention) See UPMS for detail
- Monitor temperatures !!!!!!!!!!!!!!!! carefully and often
- Consider adding period of quarantine/drying following decon – insurance policy
  - this may be difficult with the boat owner and not possible (unless you have appropriate regulations in place)
Quarantine/Drying

Time out of the water exposed to air temps leads to mussel desiccation

- Varies depending on temperature and humidity - from 1-30 days
- Higher the temps and lower the humidity the shorter the drying time and visa versa
- Use 100th Meridian calculator (See UMPS or 100thmeridian.org)

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<th>Maximum daily temperature</th>
<th>Minimum days out of water</th>
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<tr>
<td>Degrees Fahrenheit</td>
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<tr>
<td>80-100</td>
<td>7</td>
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<tr>
<td>&gt;100</td>
<td>3</td>
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</tbody>
</table>

- Mussel removal still required after drying!
- Quarantine/drying standard does not apply to watercraft with ballast tanks! (research suggests veligers can survive in ballast for an “extended” period of time)
UMPS has been well received ….but it needs updating…though much of the science on decontamination has not changed drastically

- Some new science to add (nothing ground breaking here)

- Additional information will be included on decontamination technology (hot pressure wash), ballast tanks, etc

- Simplify and develop appendices and links to training resources including updated

- Trainer’s Manual for Aquatic Invasive Species Watercraft Inspection and Decontamination Certification Courses

- Student Training Curriculum for Watercraft Inspectors and Decontaminators
Further information on UMPS and Watercraft Inspection Training program Uniform Minimum Protocols and Standards reports and other information on the PSMFC Watercraft Inspection Program are available at:

http://www.westernais.org/
See training Tab

Questions?
Level II Watercraft Inspection Training –

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UMPS
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