

# **A Survey of Watercraft Interception Programs for Dreissenid Mussels in the Western United States**

**Results of an On-line Survey Completed in February 2009**

**Produced for the Western Regional Panel of the National  
Aquatic Nuisance Species Task Force**

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## **Background**

The overland transport of Dreissenid mussels on trailered recreational and commercial watercraft and equipment is the primary mechanism for their range expansion into and within the western United States. For that reason, most western states have adopted some form of watercraft screening or inspection (interception) program to go along with aggressive public outreach and education and early detection programs to prevent the spread of quagga and zebra mussels and avoid their damaging impacts on aquatic ecosystems, water supplies and recreation.

While quagga and zebra mussels have been an imminent threat to western states for more than two decades, the recent discoveries of quagga mussels in the Colorado Basin and zebra mussels in California and Colorado, have stimulated the development of many new and more comprehensive watercraft interception programs in the far west since they were first reported west of the 100<sup>th</sup> Meridian in January 2007. Most of these programs have their genesis in the Watercraft Inspection and Decontamination Training (WIT) programs that have been offered by the Pacific States Marine Fisheries Commission (PSMFC) and its partners throughout the western United States since March 2007.

The WIT program has been delivered directly on 45 occasions to over 2,000 individuals from more than 90 agencies and organizations in twelve western states since the spring of 2007. In addition, eight two-day “train the trainer” programs have been delivered to 88 individuals, many whom have delivered the basic WIT training program to hundreds of additional individuals and groups within their local area since March of 2008. Over 3000 copies of the watercraft inspection and decontamination training video produced by PSMFC and the United States Fish and Wildlife Service (USFWS) have also been shipped to agencies and organizations all over the west.

As a result of the WIT program and “Don’t Move a Mussel” training video, most of the watercraft interception programs in the western US employ similar protocols and standards for the screening, inspection, decontamination, quarantine, exclusion and certification of trailered watercraft as a means to prevent or contain the spread of quagga and zebra mussels in the western US. However, as programs have evolved on the ground; budget constraints, on-the-job training and experience, differing missions and priorities, politics and a multitude of practical realities have all combined to mold individual programs to meet individual real-life situations.

The Western Regional Panel (WRP) on Aquatic Nuisance Species, the Aquatic Nuisance Species Task Force (ANSTF) and the Western State Boating Administrators Association (WSBAA) concluded that an inventory of programs and a survey of the approaches being employed in the field was necessary to determine the current “state of the art” and determine what opportunities existed for collaboration in the development of uniform minimum protocols and standards across jurisdictions that could increase effectiveness, build trust and confidence between jurisdictions and make these programs more consistent, understandable and predictable for recreational boaters and the commercial boat transport industry.

## **Acknowledgements**

The authors wish to thank all of the dedicated agency and organization representatives that took the time to complete this on-line survey. We were impressed by the incredible 96% response rate and the detail, precision and thoughtfulness reflected in the survey responses. Funding for this project was provided by the Oregon State Marine Board and US Fish and Wildlife Service.

## **The Survey**

In order to determine the number, identity, location and contact information for all agencies and organizations that had adopted or were planning to adopt watercraft interception programs in the western United States, information was compiled from a variety of sources; including a canvassing of all state Aquatic Nuisance or Invasive Species coordinators, WIT training rosters, boating agency personnel and internet searches. After checking and refining the list over several months, we believe that the list labeled as **Attachment #1** at back of this report includes all agencies and organizations who are currently or planning to become involved in the next year in watercraft interception programs in the 20 western states. An earlier version of this list was used to electronically distribute the on-line survey.

The authors used an on-line computer survey program called “Survey Monkey” to design, distribute and analyze the data obtained for this survey and report.

*To see a copy of the individual responses or view the summary tables of this information-packed interactive survey, please click on the link or visit the web address below and enter the password “Reviewer”*

[http://www.surveymonkey.com/sr.aspx?sm=hA3ezeAgMlXRyi4JIvBa2suHxd8cmun2JbYS\\_2fnrSUGe\\_3d](http://www.surveymonkey.com/sr.aspx?sm=hA3ezeAgMlXRyi4JIvBa2suHxd8cmun2JbYS_2fnrSUGe_3d)

## **Survey Results**

Of the 72 agencies and organizations in 20 western states identified through this effort as having some form of watercraft interception program, 69 or nearly 96%, returned completed surveys.

The following is a summary of the “take-home” message from individual survey question responses:

### **General Questions:**

**Questions #1-7:** These questions asked for the name, title, agency/organization and contact information for the person completing the survey as the key agency or organization

contact for watercraft interception programs. A complete list of all agencies/organizations and the contact information for each program has been condensed for ease of access and is provided in Attachment #1 of this report.

This is the first time that all western watercraft interception programs for quagga/zebra mussels have been identified and contact information for each has been compiled. This list provides an excellent reference point for understanding the breadth and depth of Dreissenid mussel prevention efforts across the west and serves as an important link for future coordination, collaboration, cooperation, information exchange and, as in the case of this survey, for keeping track of evolving approaches to dealing with this issue.

Question # 8: This question was designed to identify the relative frequency that various alternative strategies or measures for watercraft interception were employed by the various jurisdictions. Completed surveys (59 of 69 reporting) indicate that following measures were employed in descending order of use:

<u>Measure</u>	<u>Percentage of Respondents Utilizing</u>
Watercraft Inspections	81.4%
Screening Interviews	59.3%
Exclusion (prohibiting launch)	52.5%
Voluntary/mandatory Self-inspection	49.2%
Decontamination	49.2%
Quarantine/Drying Time	40.7%
Other (See Question #17 for specifics)	25.4%

Question # 9: This question asks respondents to list all waterbodies where they currently, or plan in the next year, to implement any form of watercraft interception program, and to list the measures used at each. The tables listed as Attachment # 2 contain a complete listing of those waterbodies identified by survey responses (41 of 69 reporting) and the type of program employed at each site.

Watercraft interception programs for Dreissenid mussels are being conducted at least 221 water bodies in the western US as of February 2009. The state by state breakdown for those programs is as follows:

<u>State</u>	<u>Number of Waterbodies</u>
Utah	140+
California	37
Colorado	32
New Mexico	5
Kansas	3
Arizona	2
Nevada	2

In addition, nearly all states with the exception of Alaska, Wyoming, Oklahoma and Texas reported conducting some form of watercraft interception on all or most major waterbodies on a periodic basis or offering inspection service on a voluntary basis at off-site locations. Only the state of California reports continuous watercraft inspection and decontamination operations at major border crossing areas state-wide.

Question #10: In this question, respondents were asked to briefly describe their watercraft interception program if they do not employ regular inspection/decontamination measures at specific waterbodies or times.

Responses (34 of 69 reporting) to this question varied widely. Some examples of the responses received are listed below, but, to get the full range of responses, please refer to the survey itself by accessing the link provided on page 4 of this report.

Sample Responses:

“At medium risk water bodies - we do inspections on weekends only. At low risk waters – we only do minimum inspections”

“Our efforts have primarily been educational. We’ve trained seasonal employees to contact boaters at launch ramps during the busy summer season and hand-out educational materials. We also inspect boats that are from known infested areas.”

“We do not permit private watercraft in the lake. We used to allow float tubes, but banned them at the first sign of quagga in the region. All boating is provided as rentals at the lake.”

“Currently our agency does not have the authority to stop watercraft. In 2009 we will have placed a bill before the legislature to have the authority to stop watercraft and inspect watercraft.”

“We have posted signs at all major lakes and reservoirs encouraging people to inspect, drain and dry their boats, etc. We have devoted a section of our website to ANS.”

We have no inspection program due to lack of staff.”

Question #11: This question asks how many full-time, part-time and/or seasonal FTE’s are currently assigned, or do you plan to assign, to watercraft interception programs in the coming year.

The total number of reported FTE’s (60 of 69 reporting) is summarized in the table below:

<u>Category</u>	<u>FTE’s</u>
Full-time	- 138.15

Part-time	-	110.4
Seasonal	-	395.5

(This question proved to be confusing to some respondents. We believe that a few of the responses included the number of people and not the actual FTE's for the part-time and seasonal categories. Therefore, we expect that the numbers listed for part-time and seasonal FTE's may be somewhat overstated.)

In addition, 13 entities reported no FTE's and 9 did not respond to this question.

Questions 12-17 address how watercraft screening interviews are used by various jurisdictions to screen for high risk watercraft in order to focus inspection and decontamination efforts or exclude vessels.

Question 12: This question asked respondents (44 of 69 reporting) if their watercraft/equipment interception program included a screening interview; to supply a copy of their screening questions and form (separate mailing – 11 received) and to indicate where the screening interviews typically took place.

A total of 44 agencies/organizations reported conducting screening interviews as part of their interception programs. Some respondents reported conducting interviews at multiple locations, so the total in the table below exceeds 100%.

<u>Location</u>		<u>Percentage</u>
Entry Station	-	57.4%
Launch Area	-	59.6%
Access Road	-	14.9%
Other	-	17.0%

“Other” locations included:

- Card lock access facilities
- Boarder inspection facilities
- Highway check stations
- Bass Tournament check-ins
- Office/remote locations

Question #13: This question (49 of 69 reporting) asked whether all watercraft were subjected to a screening interview at the point of entry/contact or if only select watercraft were screened as part of their watercraft interception program.

The majority of agencies/organizations who used screening interviews applied them to all watercraft; however, a significant number reported using operator interviews on a random or select basis (often based on vehicle license plate or boat ID number). The breakdown below shows the percentage of agencies/organizations applying screening interviews by category:

<u>Category</u>		<u>Percentage</u>
All Watercraft/Equipment	-	75.5 %
Random	-	20.4%
Select (See Question #14 for criteria)	-	14.3%

(Once again, the total exceeds 100% because some agencies/organizations reported employing different strategies at different locations depending on facilities, staffing and risk level)

Question #14: This question asks what criteria were used to “select” watercraft for a screening interview. Of those agencies employing this strategy (11 of 69 reporting), a sample of the responses is provided below:

“Only out of state boats are screened.”

“Boats with stickers are allowed to reenter without stopping – this is a form of screening.”

“Boats that have been previously inspected and have been banded upon exiting the water body do not have to re-inspect if the band is intact.”

Question #15: This question asks the respondent to estimate the percentage of watercraft using either their established inspection stations or all of the waters under their jurisdiction were currently subjected to some form of screening interview. This is another difficult question to analyze on a group basis since it was interpreted in one of two very different ways by respondents. The best use of this data is in having a “snapshot” record of what individual agencies/organizations are doing, and using the individual responses to draw conclusions about their individual programs.

Of those who estimated the percentage of watercraft that were subjected to a screening interview at “official” interception locations, the answers ranged from 20% to 100%. Of the 34 respondents with established interception facilities, 23 (68%) reported 100% of watercraft are interviewed. For the 11 who indicated less than 100% coverage, the estimated range was 21% to 98%.

For those who responded based on the total percentage of watercraft within the state or jurisdiction being subjected to a screening interview, the estimates ranged from 0% to 5% with the average estimate being 1.1% for the 10 who reported in this manner. Several respondents did not venture an estimate.

Question #16: Here, respondents (48 of 69 reporting) were asked to identify how the screening interview was being used as reflected by the range of actions that were being taken as a result of the information gained through this process. A range of potential actions was listed and respondents were asked to indicate which applied to their program.

The following table lists the percentage of those responding to this question that used the screening interview to trigger one or more of the following actions:

<u>Action</u>		<u>Percentage</u>
Permission to launch/leave	-	77.1%
Exclusion (not allowed to launch)	-	75.0%
Follow-up inspection	-	64.6%
Drying time/quarantine required	-	62.5%
On-site decontamination provided	-	45.8%
Off-site decontamination required	-	29.2%
Other (See Question #17 for list)	-	18.8%

Question #17: This question asks respondents to add any additional comments or clarification regarding their use of the screening interview as one element of their watercraft/equipment interception program.

We received 35 responses to this question. Many of these comments/clarifications addressed broader topics that are covered in more detail in later sections of the survey and this report. A few of the more instructive comments regarding screening interviews are listed below:

“Screening interview questions are incorporated into the watercraft inspection form”

“We only have authority to provide/hand-out educational material at the point of entry or the boat ramp. Do not have authority to stop boats for questioning”

“Automated screening interviews are conducted by automated fee machines”

Questions 18-22 address how watercraft/equipment inspections are performed by the various responding agencies and organizations.

Question #18: This question asks those respondents (53 of 69 reporting) who reported conducting watercraft/equipment inspections whether they used a standard inspection form and to provide a copy of the form used.

The breakdown of responses to this question follows:

<u>Response</u>		<u>Percentage</u>
Use a standard inspection form	-	79.2%
Don't use a standard inspection form	-	20.8%

Question #19: This question asks respondents who said they conducted inspections, where those inspections typically took place. The table below summarizes responses. The total exceeds 100% because some entities conduct inspections at more than one location. For instance, the Los Angeles Department of Water and Power offers inspections at their

office and at lake access points in order to give boaters an opportunity to have their vessel pre-inspected so they can avoid waiting in line at the boat ramp.

<u>Location</u>		<u>Percentage</u>
On-site	-	92.3%
At an off-site facility	-	21.2%
Other (See Question # 22 for details)	-	11.5%

Question #20: Here, respondents were asked if they used a set of established standards, procedures or protocols for conducting watercraft/equipment inspections. With 56 of 69 responding to this question, the breakdown was as follows:

<u>Use established procedures, protocols or standards</u>		
Yes	-	85.7%
No	-	14.3%

Question #21: This question asked what type of training watercraft/equipment inspectors operating under their jurisdiction had received. With 58 of 69 responding to this question, the resulting answers are as follows:

<u>Type of training</u>		<u>Percentage</u>
Field training offered by your agency/organization	-	69.0%
Field training offered by an outside provider	-	60.3%
Video or classroom training	-	55.2%
Other (See Question #22 for explanation)	-	19.0%

Once again, it is obvious from the responses to this question that most agencies/organizations offer a combination of training opportunities for inspection personnel, making the percentage total exceed 100%.

Question #22: This question provides an opportunity for the respondent to offer further explanation to any of the questions/answers in this section of the survey regarding elements of their watercraft/equipment inspection program. A few of the more instructive comments from this section are listed below, but, to explore the responses to this question in more detail, please go to the survey itself.

“We use Standard and High risk protocols. Standard Inspection – is a quick 4 minute inspection checking for plants, mud, water and visual and feel inspection. High Risk Inspection – is thorough and looks at every part of the watercraft”

“Inspections are based on training provided by the 100<sup>th</sup> Meridian”

“All watercraft and related equipment are inspected for the presence or ability to harbor aquatic nuisance species. Any watercraft found to have ANS on board,

or the presence of conditions that could harbor ANS are not allowed to launch. In addition, any watercraft that can sequester water on board without the ability to inspect will be excluded from the reservoir.”

Questions 23-28 address how watercraft/equipment decontamination is performed by the various responding agencies and organizations.

Question #23: This question asks whether their agency/organization offers decontamination services for Dreissenid mussel positive or suspect watercraft/equipment and to provide a copy of any protocols, procedure or standards they currently employ to their decontamination programs.

The results from this question (62 of 69 reporting) are as follows:

Offer decontamination services

Yes	-	48.4%
No	-	51.6%

Question #24: Here, respondents (33 of 69 reporting) were asked to indicate the type of decontamination services they provided as indicated by the following general categories:

<u>Type of decontamination</u>		<u>Percentage</u>
On-site portable powerwash unit	-	69.7%
Permanent on-site powerwash facility	-	21.2%
Off-site powerwash facility	-	21.2%
Chemical decontamination	-	21.2%
Sent to private off-site decontamination provider	-	30.3%
Other (See Question #32 for explanation)	-	18.2%

Question #25: This question deals with the type of system used to contain waste products from the decontamination process for watercraft/equipment. Respondents (27 of 69 reporting) were asked to identify their waste containment practices into one of the following categories:

<u>Waste containment system</u>		<u>Percentage</u>
Closed recycle system	-	25.9%
Waste contained and hauled to approved disposal site	-	37.0%
Sewer or septic system	-	11.1%
Natural (ground) filtration away from watercourse	-	77.8%
Other (See Question # 32 for explanation)	-	3.7%

Some agencies/organizations with multiple decontamination sites/facilities use more than one disposal system, bringing the total to over 100%.

Once again, as with any of these question/answer summaries, more specific and detailed information can be obtained by referring directly to the on-line survey accesses through the link provided on page 3 of this report.

Question #26: This question asks those respondents (32 of 69 reporting) that provide watercraft/equipment decontamination services if they charge for those services.

Charge

Yes	-	28.1%
No	-	71.9%

Question #27: Here respondents (13 of 69 reporting) were asked to indicate the amount charged for watercraft/equipment decontamination, whether they do it themselves or refer decontamination to an outside provider, and to indicate where the money goes.

While the majority of programs (16 of 27) do not charge for decontamination, several indicated that they did charge or were considering adding a charge for this service in the near future. Of those who did charge a fee for watercraft/equipment decontamination we received the following 13 responses:

“\$5 - Paid to SLO Parks”

“\$5 - The recreation concessionaire receives the payment to help offset the cost of their staff time.”

“Since most of our watercraft are wakeboard boats that contain multiple ballast tanks, the fee is 100 dollars.”

“Provider receives payment. Cost varies by provider”

“\$30 – City of Eskridge”

“All of our marinas are not owned by the same concessionaire so some charge by the hour and some by the foot. A 42' boat cost \$85 to decontaminate at Callville Bay Marina, A large houseboat is approx \$300.”

“There are few private decontamination services in Utah. One operator at Bear Lake, on the Utah/Idaho border charges \$150 for decontamination. Another operator in St. George also does decontaminations, but the fee is unknown. Utah Division of Wildlife Resources does not charge for professional decontaminations and we conducted 818 in the 2008 boating season.”

We do not charge for services - but the marine dealers and private industry in CO do (anywhere from \$50-\$100 for decontamination). We only had 2 in 2008, but expect many more in 2009.”

“WDFW - no cost. If referred to marine yard private vendor it depends on size of vessel and extent of contamination”

“\$100 per hour”

“The only decontamination we do is done by our own personnel. Our three hatcheries have and use portable powerwash units that they use on the fish trucks and fish tanks. The field fisheries biologist has a guide for disinfection of equipment.”

“We are not currently charging, but we are looking to go that direction.”

Question #28: This question asks respondents (31 of 69 reporting) “what type of training do decontamination equipment operators under your jurisdiction receive?” The following table summarizes the responses received to this question:

<u>Type of training</u>		<u>Percentage</u>
In-house field training	-	67.7%
100 <sup>th</sup> Meridian Level Two training	-	67.7%
Other (See Question #32 for explanation)	-	9.7%

The total here exceeds 100% because some agencies/organizations provide several forms of training for their decontamination personnel.

Questions 29-31 address watercraft/equipment quarantine/drying time procedures used by the various responding agencies and organizations.

Question #29: This question asks the respondent (45 of 69 reporting) if they required a specific period of drying or quarantine time for watercraft/equipment that have been also decontaminated.

Require quarantine/drying period following decontamination

Yes	-	51.9%
No	-	51.9%

The total exceeds 100% here because one agency/organization has a different standard for low risk and high risk watercraft/equipment

Question #30: Here, respondents (23 or 69 reporting) were asked how the length of drying/quarantine time was determined. The table below summarizes responses to this question:

How quarantine/drying time is determined

Use 100 <sup>th</sup> Meridian “quarantine calculator”	-	47.8%
Other (See Question #32 for explanation)	-	52.2%

Question #31: This question asks the respondent (52 of 69 reporting) if they provided a designated facility or holding area for quarantined watercraft/equipment.

Yes	-	28.8%
No	-	73.1%

Responses to this question exceed 100% because one agency/organization doesn't provide a dedicated holding area for some waters and does for others.

Question #32: This question provides the respondent an opportunity to elaborate on their answers to questions 23-31 by providing more detail or explaining their answer. We will address this question by providing sample and/or summary information from those responses we find particularly instructive for each individual question where a significant number of responses were recorded. To reference all answers to this and other questions on the survey, please go to the actual survey report using the link and password provided earlier in this report.

Reference Q- 23 – General parameters of decontamination program

“We use a system that keeps water temps constant at 160 degrees. We start at the bottom of the boat and get every square inch. Ballast tanks are filled using a fake a lake system that has a connector for our hot water washer. Ballast are filled 50% to capacity and then water is pumped out. Bilge is filled with hot water and trailer is raised and lowered to get water into each area of the bilge. Engine intakes have 160 degree water introduced with the fake a lake system and run for 5 minutes to insure all potential threats are killed. We purchased a Landa hot water system. We were using potassium chloride for bilges but are waiting to make sure it is approved and will not be considered a pesticide.”

“We spray boats for the quarantine period. We do not do decontamination if a boat tests positive. All "permit" boats are sprayed, tagged and quarantined before the boat season.”

“We currently do not provide any decontamination services. We simply restrict any equipment that can threaten the integrity of the water source.”

“Utah Division of Wildlife Resources owns 26, trailer-mounted decontamination units.”

“Watercraft found infested with adult mussels are power washed at the border station, then they are sent to destination under hold notice for

further inspection/risk mitigation by a Fish and Game biologist. Owners are instructed to not place the craft in water until released by the biologist.”

Reference Q-24 – “Other” types of decontamination services provided

“LADWP provides Clorox bleach to watercraft owners when water is present during inspections in compartments, bilge areas, etc and supervises the application of bleach. Bleach is utilized for decontamination at a 1 cup to 1 gallon ratio. If mussels or aquatic vegetation are found during the inspection process washing is required along with a minimum of one week exclusion from launch at Crowley Lake. Klondike and Diaz Lakes are going to be participating in a self certification program in 2009.”

“..... at some sites we use a very large boat washer, at others we have to use small dip stations.”

Reference Q-25 – “Other” types of waste treatment for decontamination operations

“Decontaminations occur in a location where there will be no run off into a waterway”.

“. Since we only do one boat at a time at this stage, all water is kept in local area and evaporates or is sump pumped into 55 gallon barrels.”

Reference Q-26 – Fees for decontamination services

No additional information provided

Reference Q-28 – “Other” types of training provided to decontamination operators

“Currently, we only have conducted 100th Meridian Level One WIT training.”

“We have contracted training from HydroEngineering twice.”

Reference Q-30 – “Other” methods for calculating quarantine/drying time requirement

“Quarantine will be determined at time of decontamination. If so, the boat may be held by Oregon State Police or other entity similar to vehicle impound.”

“The only option we're aware of at this time in our area is to simply not allow a boat to launch if it's contaminated or suspected to be contaminated. Required drying time is 5 days.”

“Water craft must be out of water for 7 days.”

“10 day quarantine. we tag or they can leave on site.”

“10 day quarantine for all vessels, 28 day for vessels not clean, dry or that have been on contaminated lakes.”

“If an adult mussel is seen during decon, vessel is quarantined for 5 days after decon. No mussel seen no quarantine.”

Questions 33-36 address watercraft/equipment certification procedures used by the various responding agencies and organizations.

Question #33: This question asks respondents (56 of 69 reporting) if there watercraft/equipment interception program includes any form of “certification” for vessels that have passed inspection, been decontaminated or been quarantined.

Yes	-	48.2%
No	-	51.8%

Question #34: Here, respondents (30 of 69 reporting) were asked to characterize their certification program into one of the following categories:

<u>Type of certification program offered</u>	<u>Percentage</u>
A sticker attached to the vessel/equipment/trailer	- 13.3%
A wire cable/band connecting the vessel to the trailer	- 46.7%
A paper receipt or letter	- 46.7%
Other (See Question # 36 for explanation)	- 10.4%

Several agencies/organizations reported using a combination of a sticker and paper certificate/receipt or a combination cable lock and paper receipt/certificate, making the total exceed 100% for this question.

Question #35: This question asks the respondent (48 of 69 reporting) if they accepted “certifications” issued by another jurisdiction when presented by the operator as proof of a passing a previous inspection.

Accepted certification from another jurisdiction

Yes, unconditionally	-	2.1%
Yes, after a screening interview	-	10.4%
Yes, after a screening interview and brief inspection	-	22.9%
No, treated like any other watercraft/equipment	-	56.3%
Other (See Question # 36 for further explanation)	-	10.4%

Question #36: This question provides the respondent an opportunity to elaborate on their answers to questions 33-35 by providing more detail or explaining their answer. We will address this question by providing sample and/or summary information from those responses we find particularly instructive for each individual question where a significant number of responses were recorded. To reference all answers to this and other questions on the survey, please go to the actual survey using the link and password provided earlier in this report.

Reference Q-34 – “Other” types of certification offered

“We have a program for certifying boat yards and marinas to inspect and decontaminate recreational boats. We are discussing the possibility of a sticker program similar to Maine's for boats that have been inspected.”

“Trailered vessels that have passed inspection can opt to be banded upon exiting the water body. This is a coated paper vandal-proof band between the vessel bow bolt and the trailer hitch. The band must be intact and not tampered with for the vessel to enter without inspection at next launch.”

“Staff has watercraft users pull boat plug, drain live wells, and run bilge pumps, etc. When no more water comes out a blue seal is attached to the vessel and trailer.”

Reference Q-35 – “Other” options regarding their acceptance of watercraft/equipment certification issued by other jurisdictions

“In 2008 we only accepted certified watercraft from Dillon Reservoir, Colorado. Our inspectors were trained at the Dillon Marina and we were comfortable with their inspection process. In fact we pretty much mimicked their program. 2009 we are open to accept watercraft from other bodies of water only if they are conducting inspections to our level of standards.”

“We will accept certifications from other areas once protocols are established.”

“Reciprocal with regional lakes that are doing similar inspections/decontaminations.”

“We would like to get into a shared certification system. If one is developed for Colorado, we will participate”

“Watercraft are given a sticker for a limited time and which is specific for a body of water. The sticker is no good at other times or other locations however, it does tell us that we have already stopped the vessel previously and can help to expedite the inspection/interview.

Questions 37-39 address watercraft/equipment exclusion procedures used by the various responding agencies and organizations.

Question #37: In this question asked respondents (61 of 69 reporting) if they excluded some or all watercraft/equipment as a regular part of their interception program due to lack of resources for screening, inspection, decontamination or enforcing quarantine/drying time restrictions.

Yes	-	32.8%
No	-	67.2%

Question #38: As a follow-up to the question above, we asked respondents (26 of 69 reporting) what types of watercraft/equipment were excluded under their program. The table below summarizes the responses to this question using general categories provided by the survey:

<u>Type of watercraft/equipment excluded</u>		<u>Percentage</u>
Those considered high risk due to last launch location	-	53.8%
Those that are not cleaned, drained and dried	-	57.7%
All non-local watercraft/equipment	-	7.7%
All motorized watercraft	-	11.5%
All watercraft/equipment	-	23.1%
Other (See Question #39 for explanation)	-	30.8%

Question #39: This question provides the respondent an opportunity to elaborate on their answers to questions 37-38 by providing more detail or explaining their answer. We will address this question by providing sample and/or summary information from those responses we find particularly instructive for each individual question where a significant number of responses were recorded. To reference all answers to this and other questions on the survey, please go to the actual survey using the link and password provided earlier in this report.

Reference Q-38 – “Other” reasons for excluding watercraft/equipment

“We may cut back on hours that boat-launching is allowed and may look at cutting the boating season slightly shorter. Exclusions could also apply to boats

that are not cleaned, drained and dried if we do not have a decontamination station in place.”

“Water ballast sailboats due to the issue of not being able to ensure the tank is completely drained and dry and the unknown issue of the ability of mussels to survive in this environment.”

“Exclusion is an interesting word. We plan to deny launch opportunity to any boat that fails to certify they have either not been used in a Dreissenid infested water within the last 30 days, or that they have been properly decontaminated since such use. We usually have ability to decontaminate onsite or nearby, and we do stop and hold suspect contaminated boats until a decontamination occurs. There is no fee.”

“Any boats with water passages that cannot be satisfactorily verified as dry, such as bass boats with live well systems”

“Vessels from high risk areas (out of the state of California, Southern California and San Benito County) are excluded from operating on our reservoirs unless they complete a 30 day quarantine and hot water engine flush. Vessels that have operated in reservoirs from high risk areas cannot launch on our reservoirs for thirty days. All Vessels are excluded from San Pablo Reservoir Tuesdays, Wednesdays and Thursdays because there is no inspector on duty. Any vessel arriving with standing water or water in the engine is denied launching privileges and must stand dry for 5 days prior to returning.”

“Any watercraft that may have the ability to sequester water on board (in hoses, pumps, spaces in double hulls, tanks, etc.) that can't be inspected are excluded from the reservoir. This is usually determined by the presence of through-hull fittings other than the keel plug.”

Questions 40-46 address the need and support for the development of uniform minimum protocols and standards for watercraft interception programs in the western United States

Question #40: This question asks respondents (65 of 69 reporting) if they believed that having uniform minimum standards for the following elements of watercraft interception programs might be beneficial. The following table displays the responses received:

<u>Uniform Standards for:</u>	<u>Percent reporting as beneficial</u>
Screening (form, questions, protocols)	- 83.1%
Inspections (form, procedures, protocol)	- 95.4%
Decontamination (procedures, standards, protocol)	- 84.6%
Quarantine/Drying time (calculator, standards)	- 81.5%
Certification (system, protocol)	- 76.9%

Question #41: Here, respondents (62 of 69 reporting) were asked to indicate the ways that uniform minimum standards might be beneficial. They were asked to indicate their reasons for believing that they would be beneficial by the following prescribed categories:

<u>Benefit</u>	<u>Percentage agreeing</u>
Increased and more consistent resource protection	- 91.9%
Reduced staff time and expense	- 54.8%
Improved customer service	- 62.9%
Increased boater understanding, predictability, support and cooperation	- 87.1%
Other (See Question # 42 for explanation)	- 9.7%

Question #42: This question asks respondents (42 of 69 reporting) to voice any concerns or reservations they had about adopting uniform minimum standards for watercraft/equipment interception programs in the western United States. All of those responses are provided below:

1. Costs
2. Hopefully none, there could be a loss of revenue for our District, as we are mainly a recreational District, with a Marina, lake front Campgrounds, and 174 recreational leases surrounding the lake.
3. Uniform training and trust in protocols is needed for the program to work.
4. It all boils down to everyone doing things consistently with whatever standards we set. We are basically relying on each other.
5. Inspections are currently performed on I-15 and 40 at the USDA checkpoints. They are labor and time intensive. Small agencies do not have the resources to implement a labor & cost intensive program. Some agencies lease out recreational lake operations. An option would be needed to make the entity running the recreation, not the agency/owner, responsible for implementation and consequences.
6. We will continue to ban all outside items as long as we can keep the Quagga out of the Lake.
7. That inspectors have a complete knowledge of boats and the decontamination process.
8. Ensuring that standards are adhered to throughout the system.
9. They would not be consistently applied.
10. Currently we are working with multiple agencies (gov. and private) in Colorado to formulate a minimum acceptable inspection and decontamination protocol. Individual agencies might add restrictive standards on top of the minimum standards set, but they

will be required to meet the minimum standard required. We want to work with Western US on a minimum acceptable standard.

11. Screening interviews only work the first time the boat owner is contacted. If a boat owner knows that he is going to be detained / delayed if he answers yes to any of the questions he is going to answer no to all of them.  
Inspection and quarantine is the only way to ensure that a boat has no mussels on it or in pooled water somewhere in it, before it is allowed to go into the water.
12. Being a drinking water supply the concern is the minimum standards may be too lax in an effort to have all the boaters pass the survey/inspection.
13. Buy-in from those affected
14. Only concern is that they be reasonable.
15. I personally would have none.
16. Utah would be concerned that other states properly train their screeners. Also, once a clean boat certification is given, the boater should be instructed to expect to be interviewed again where ever they launch as a routine precaution. Such an interview/inspection would be far less time consuming with another state's certification having already been done. We would simply make sure the boat had not been launched, particularly into an infested water, since certification, and we would take a quick look to make sure no Dreissenid contamination remained on the boat.
17. Cost to agency; until NAISA is reauthorized funding is tight to implement program
18. It would be helpful to support the fiscal needs of these programs politically. If we all do it the same way, we stand a much better chance of securing resources because we can apply collectively and present a united front before decision makers.
19. We have legislative mandates we must meet - there are times when a standard form or protocol may not meet the requirements set for us by the Legislature and/or the agency.
20. It's a good idea but getting states to sign on, particularly to the certification standards, will probably be a difficult lengthy process. But providing states with suggested guidelines could help make development of systems more efficient.
21. Watercraft Inspection/Decontamination Programs are being conducted by water agencies statewide at the local level. Every water body has a different situation (staffing, access, funding, usage, etc). Some of these agencies do not have sufficient funding to conduct any program at all.

Who would develop the unified minimum standards (WRP)?

The unified minimum standard would have to be adopted and implemented by local agencies. What if there is not widely adopted?

22. None
23. None at this time.
24. We would need to see them before the concerns would come to light, but I don't anticipate any.
25. Colorado is creating a minimum standard but getting the entire Western US standard might be difficult.
26. Concerns include consistent levels of training and standards across agencies conducting screenings, inspections, and decontaminations.

RE: Question 41, Other: Reduced risk of litigation in the face of multi-agency water bodies.

27. Cost to boaters and cost to water agencies.
28. Benefits afforded by such standards would prevent spread to uninfested waters.
29. Even if the standards are exactly as we would have them, I would be concerned about the quality of any protective measures carried out by unknown entities.
30. I do not believe that South Dakota would be willing to provide the resources or creation of rules/laws in order to adopt and ensure any uniform minimum standards for watercraft inspection within the State of South Dakota. The usefulness of watercraft inspection is clear and will likely become more prevalent in the state over time however unless a body of water is known to harbor Dreissenid mussels "mandatory" inspections are not likely to become a requirement here.
31. Enforcement of uniform minimum standards
32. Uniformity
33. We have had an inspection/interview program since 2001. I need to continue collecting the same data the same way as previous years in order to maintain this long term database. We also have hundreds of waterbodies within our jurisdiction and could not implement the standards at all of them. Iowa is not really part of the Western U.S. anyway although we do get water from the west in the Missouri River.
34. standards must be high/strong enough and be followed to prevent ANS transport
35. not an issue since we do not require certification. May be beneficial for commercial haulers and large marinas. For the recreational boater, may be difficult
36. Standards have to be reasonable in relation to level of protection verses time for inspection process. If the process takes too much time then boats will back up onto entry and feeder roads creating safety hazards.
37. There seems to be a reluctance from lake managers who know their lakes are already contaminated to take an active role in preventing the spread of mussels to other lakes.

Uniform standards are only effective if they are strictly enforced.

38. future coordination and funding, both in Arizona and neighboring states.
39. If watercraft owners encounter lakes with stricter standards and feel that they have already met the criteria at another lake there could be disgruntled boaters.
40. The inspection is only as good as the inspector, and at this time, we would have a hard time trusting inspectors from another agency in which we do not have control of the training and competency standards. The stakes of contamination are just too high to leave it to those kinds of variables. Even the best inspectors have a substantial failure rate as far as allowing high and medium risk boats that may have ANS. We have opted for a partial ban, excluding all high and medium risk boats, and rigid inspection of all others. Our agency is considering a complete ban on all boats except for the rental boat fleet owned by the City.
41. Consistency of application
42. Uniform message helps tenfold with education and outreach measures.

Question #43: This question asks if their agency/organization would be willing to participate in the development of uniform minimum standards for watercraft inspection and decontamination programs in the West. Respondents (61 of 69 reporting) overwhelming said that their agency would participate in this type of effort.

Yes	-	85.2%
No	-	14.8%

Question #44: This question asks those agencies/organizations indicating “yes” to the question above, to provide the name, e-mail address and contact phone number of the person who would most likely represent their agency/organization in any future effort to work cooperatively to develop these regional standards. All of the responses to this question are provided below.

1. Tom Felt, [ruthlakecsd@saber.net](mailto:ruthlakecsd@saber.net), 707-574-6332
2. Don Melin, [dmelin@co.slo.ca.us](mailto:dmelin@co.slo.ca.us), 805-473-7182
3. Mark Redding, [mredding@ci.westminster.co.us](mailto:mredding@ci.westminster.co.us)
4. James Sandoval, [james\\_sandoval@fws.gov](mailto:james_sandoval@fws.gov), 505-342-9900 ext. 112
5. Jeff Miller, [jeff@redmtnrvpark.com](mailto:jeff@redmtnrvpark.com), 303-929-4412
6. Ken Stahlnecker, [ken\\_stahlnecker@nps.gov](mailto:ken_stahlnecker@nps.gov)
7. Tommy Phillips, [tommy.phillips35@yahoo.com](mailto:tommy.phillips35@yahoo.com)

8. Drew Sprafke, [andspr@lakewood.org](mailto:andspr@lakewood.org), 303-697-6154
9. Pamela Francis, [pamelaf@co.lake.ca.us](mailto:pamelaf@co.lake.ca.us), 707-263-2341
10. N.L. Ruhmke, [nruhmke@parks.ca.gov](mailto:nruhmke@parks.ca.gov), 951-443-2414
11. CITY OF ESKRIDGE, 785-449-2621
12. Same as above
13. Rob Billerbeck and Gene Seagle, [gene.seagle@state.co.us](mailto:gene.seagle@state.co.us), 303-866-3203 ext. 4343
14. Miranda Plumb, [miranda\\_plumb@fws.gov](mailto:miranda_plumb@fws.gov), 907-262-9863 or  
Denny Lassuy, [denny\\_lassuy@fws.gov](mailto:denny_lassuy@fws.gov)
15. Bryan Moore, [bryan\\_moore@nps.gov](mailto:bryan_moore@nps.gov), 702-293-8901
16. Ken Kreif, [kkreif@cox.net](mailto:kkreif@cox.net), 316-788-1404, our organization has no funds to support  
any-type travel
17. That would be me: Randy Henry.
18. I would start with Erv Gasser (NPS Pacific West Region IPM Coordinator),  
206-220-4263
19. Larry Dalton, [larrydalton@utah.gov](mailto:larrydalton@utah.gov), 801-652-2465
20. Steve Hudson Lake Superintendent, #1 Office Drive, Marion, KS 66861,  
[park@marioncoks.net](mailto:park@marioncoks.net)
21. Amy Ferriter - see above.
22. [ctackett@odwc.state.ok.us](mailto:ctackett@odwc.state.ok.us)
23. Call Elizabeth! Let's do this!! 303-547-8690, [elizabeth.brown@state.co.us](mailto:elizabeth.brown@state.co.us)
24. Probably, most likely either Allen Pleus or Eric Anderson would be involved.
25. Eileen Ryce, [eryce@mt.gov](mailto:eryce@mt.gov), 406-444-2448
26. Dominique Norton, [dnorton@dfg.ca.gov](mailto:dnorton@dfg.ca.gov), 916-654-4267
27. Neil Sperandeo, 303-628-6189, [neil.sperandeo@denverwater.org](mailto:neil.sperandeo@denverwater.org)
28. [Helix.ranger@sbcglobal.net](mailto:Helix.ranger@sbcglobal.net)
29. Dr. Phil Mamer
30. Travis Carroll

31. Robert Ketley, [rketley@ci.watsonville.ca.us](mailto:rketley@ci.watsonville.ca.us), 831-768-3137
32. Gary Leslie, 916-654-0312
33. Steve McMurray, [Stephen.McMurray@mdc.mo.gov](mailto:Stephen.McMurray@mdc.mo.gov)
34. I could do it but would not be able to take the lead, would need to review/comment on drafts.
35. Same as above
36. Phil Hofer, [philh@townoffrisco.com](mailto:philh@townoffrisco.com), 970-668-4334
37. Sean Senti, [ssenti@calparksco.com](mailto:ssenti@calparksco.com), 925-997-2403
38. Eric Anderson, 360-902-2426 & Alan Pleus, 360-902-2724
39. See above
40. Salvador Martinez; [salvadormartinez@mp.usbr.gov](mailto:salvadormartinez@mp.usbr.gov); 916-978-5207
41. see contact information provided at beginning of survey
42. Mark Anderson, [mark\\_anderson@nps.gov](mailto:mark_anderson@nps.gov), 928-608-6266 / Michelle Haas, [michelle\\_haas@nps.gov](mailto:michelle_haas@nps.gov), 928-608-6269
43. Bob Evans CMM, 970-468-510, [bobevans@dillonmarina.com](mailto:bobevans@dillonmarina.com)
44. Robert Mitchell, [rmitchell@calparksco.com](mailto:rmitchell@calparksco.com), 530-526-8645
45. vessels with bladders need to prove that they cannot transport invasive species, Casitas Board will not settle for anything less than perfection from a program
46. my contact above
47. Jim O'Connor see above info
48. Mark Warren, [markeraw@ndow.org](mailto:markeraw@ndow.org), 775-688-1535
49. Tim Cox, [tcox@ebmud.com](mailto:tcox@ebmud.com), 209-763-5061
50. Tom McMahan, contact info above.
51. Lori Gillem and Jeff Nordin, [lori.gillem@ladwp.com](mailto:lori.gillem@ladwp.com); [jeffrey.nordin@ladwp.com](mailto:jeffrey.nordin@ladwp.com); 760-873-0407
52. Scot H. Lang, [slang@ci.santa-cruz.ca.us](mailto:slang@ci.santa-cruz.ca.us), 831-335-2586
53. Rick Boatner, [rick.j.boatner@state.or.us](mailto:rick.j.boatner@state.or.us), 503-947-6308
54. Nicole Cartwright, [ncartwright@tahoercd.org](mailto:ncartwright@tahoercd.org), 530-543-1501 ext. 111

Question #45: This question asks respondents (64 of 69 responding) to indicate from a list of prescribed choices, how they think the process of developing and agreeing to uniform minimum standards should be approached. The following table summarizes their responses:

<u>Reconciliation Process</u>	<u>Percentage Favoring</u>
A workshop of all agencies/organizations	- 51.6%
A contractor to develop recommendation for electronic review and approval	- 26.6%
A sub-committee of involves agencies/organizations to develop recommendations for electronic review and approval	- 56.3%
Other (See Question #46 for explanation)	- 9.4%

Question #46: Here, respondents (21 of 69 reporting) were asked to describe any alternative processes to those listed above for the development, reconciliation, agreement and eventual adoption of uniform minimum standards for watercraft/equipment interception programs in the western US. All responses to this question are provided below:

1. Universal band, and allow banding to occur at commercial locations
2. Fish & Game agencies should take the lead in this area.
3. A core team should develop a draft. The draft should take into account; small, medium, large and very large agencies; their ability to implement an extensive program; and their funding/budgets. The agencies you sent this survey to should be sent the draft Uniform Minimum Standards and asked to comment on it. This will most likely include a cross section of agencies, not just large and very large ones.
4. A complete understanding of each type of watercraft and trailer is needed. Ballast tanks and bilges with more than one drain plug and unusual watercraft are the biggest threats that need a complete understanding by inspectors and decontamination personnel.
5. I think that Colorado State Parks has a pretty acceptable proposed plan that could form the basis for this. They already have forms, inspection protocols and decontamination protocols, along with a proposed tagging system. It would be pretty easy to refine this plan to make it standard.
6. comment about fte - we have 7 dedicated to ANS we have addition full time employees who have some percentage of their work dedicated to ANS
7. I'm not sure to what extent that a federal agency (at my level) is allowed to set standards for all western states, but I'll do what I can to assist in the process.

If you need more detail explanation on this survey please give me (Bryan Moore) a call at 702-249-6181.

8. Perhaps two standards?? One for irrigation/flood control reservoirs and lakes and a little tighter standard for drinking water supplies??
9. Such a process of consensus can be developed via the two methods checked above. I believe that a high level of interest amongst the western states already exists and that consensus should be reasonably easy to secure.
10. I think the Western Regional Panel has enough expertise to put this together without additional meetings or committees.
11. A workshop would be my second choice... I think having a contractor pull it all together and make recommendations would be a nice preemptive strike. We could have a half day with the contractor going over the recommendation list and a day workshop determining the final protocols. Anyone want to come back to Denver? How about a mountain location this time? :)
12. The California Department of Boating and Waterways should be included in this discussion.
13. This is not a reply to question 46, but taking the space here to say Thank You for initiating this survey.--LMG
14. I think any of the above methods would be effective, but forming a sub-committee or using a contractor would be the quickest and most cost efficient.
15. Having DFG put out standard protocols and guidelines that all lakes should follow.
16. open discussion among impacted states; involvement in discussion does not mean agency endorsement of product, standards may be too low for some agencies to accept
17. use the structures of the ANS panels
18. Uniform standards should be developed, and funded, by the State and Federal government using advice from experts in the field. Once developed outside agencies can give input before enacting. Too often decisions are turned over to those who are more concerned about short term profits than they are about the State water supplies long term health.
19. Must have buy-in at state agency Director-Commission level first. Then allow biologists and specialists the latitude to finalize these standards.
20. Need more participation and involvement from the Federal and State governments.
21. A contractor holds workshops with sub-committees of all stakeholders (i.e., involved government and private agencies, the public, and boat manufacturers) to develop recommendations for later electronic review and approval.

## **Discussion**

### **General:**

In order to complete this survey, we needed, for the first time ever, to identify all of the watercraft/equipment interception programs that had been initiated in the western United States over the past several years. This process resulted in identifying the 72 possible programs that have been listed in Attachment #1.

The agencies, names and contact information found in this list were reconciled several times with the involved agencies/organizations to be sure that the information for each program was correct and current. Based on that process and the survey returns, we are confident that this listing represents the best currently available (as of February, 2009) information of its type on watercraft and equipment interception programs in the western US.

### **Program Levels:**

As should be expected, the type of interception program employed by the various jurisdictions varied significantly depending on a number of factors including; regulatory authority, available funding, type and value of resources to be protected, political understanding and support, and the number and type of facilities available. In all cases, however, it is evident from the survey that the level of emphasis on preventing an introduction of Dreissenid mussels or other ANS from entering new waterways on either recreational or commercial watercraft or equipment had been significantly elevated since 2007 when new populations of quagga and zebra mussels were first identified in the western US.

Program levels reported varied from occasional random spot checks at boat ramps to required inspection for all vessels by trained inspectors with the capacity (authority, staffing, training and equipment) to require decontamination, quarantine or exclusion of all suspect watercraft and equipment. Most agencies and organizations had programs that fell somewhere between these two levels and most reported a trend toward expansion of their programs as public understanding and the resulting political and funding support caught-up to the seriousness of the threat.

The most comprehensive programs were reported in the states of Colorado, Washington, Utah, California, the National Park Service at Lake Powell and Lake Mead and with several water and park districts in California and Colorado. Other far West states including Oregon, Montana, Idaho, Arizona and New Mexico, Federal agency (USBR, NPS) programs in California and Colorado and water and park districts in Arizona and California reported recent changes in capacity and priorities that should lead to more comprehensive programs in the near future. All of the mid West states included in the survey reported having long-standing prevention programs where the major emphasis was directed at outreach and education to achieve better voluntary compliance by the

boating public, with limited authority to enact mandatory inspection and decontamination programs.

We were frankly surprised by the number of Full Time Equivalents (FTE's) reported by survey respondents. In small part, we believe this is the result of misinterpretation of this question and therefore some minor misreporting. We believe that the 138.15 FTE's reported for full-time workers is accurate, but, the reporting of part-time and seasonal FTE's most likely includes mixed reporting of FTE's by most, and the number of "people" by a few, making the total of 110.4 part-time and 395.5 seasonal FTE's slightly higher than the actual number involved in watercraft intervention programs in the 20 western states as of the end of February 2009. Despite this small discrepancy, it is very clear from the survey that watercraft/equipment interception programs currently employ a significant workforce in the West.

### **Screening Interviews:**

Some form of screening interview of watercraft/equipment operators is a staple of nearly all current interception programs in the western US. However, since "interception terminology" is not universal, many agencies/organizations tend to combine the screening interview into their definition of "inspection". We did not, and therefore, only about 60% of the entities responding indicated that their programs included a screening interview while over 80% indicated that inspection was part of their program. It's hard to imagine an inspection taking place without a screening interview. We know from reading some of the elaborative comments to these questions that many entities combine the two and that a higher percentage of programs include a screening interview than is actually reported here. We estimate more than 90% of programs include a screening interview, including self-inspection programs like those employed on over 100 Utah waters and at Lake Powell by the National Park Service.

Of those reporting, most agencies/organizations do their screening interview either at an entry station or at the boat ramp. A few reported conducting interviews either at a roadway leading to a waterway (14.9%) or other location (17.0%). Other locations where screening interviews (and/or inspections are performed) included border inspection stations, highway check stations, fishing tournament check-ins, office or convenience check stations set-up to reduce crowds at access locations, and in one case, an automated screening interview at a card-lock access to a private lake.

Most (75.5%) agencies/organizations reported screening all watercraft/equipment at the point of contact while about 20 % indicated that only "select" watercraft are interviewed or that screening interviews are applied only randomly. Those programs reporting "selective" interviews usually excluded previously certified (banded or tagged watercraft already inspected, decontaminated or quarantined) watercraft and two reported only screening out-of-sate boats.

### **Inspections:**

Generally speaking, watercraft/equipment inspections are the “bread and butter” of watercraft interception programs. Over eighty percent of the agencies and organizations engaged in watercraft/equipment interception utilized inspection as a primary tool. These programs ranged from self-inspection to full-blown inspections done by trained professionals. And, in some cases, the type of inspection varied depending on the perceived risk level of the vessel involved.

Seventy nine percent of those programs that include inspection use a standard inspection form to guide them through this process, 21% do not. Most (92% of inspections are done at an entry station or access ramp, but almost 22% of those groups responding also offer off-site inspection service so that boaters can avoid long lines at the normal locations or for special circumstances like regatta or tournament check-in, border inspection and highway check stations. Nearly all (85.7%) of responding groups used a prescribed set of protocols and standards in conducting watercraft/equipment inspections.

Most groups reported that their inspectors received training either directly from the 100<sup>th</sup> Meridian’s Watercraft Interception Training (WIT) program or indirectly through in-house training provided by staff trained by this program or video’s produced to support the WIT program.

### **Decontamination:**

Slightly less than half (48.4%) of the watercraft/equipment interception programs surveyed perform decontamination services of some kind. The most common type of decontamination service provided is the use of portable heated water powerwash units operated at the access site. A number (21.2% of the 30 entities reporting) had established permanent on-site heated water decontamination stations and an equal number offered off-site heated water decontamination and the same number (6) reported using some form of chemical decontamination.

Only about a quarter of these facilities recycle waste products from the decontamination process using a closed system. Of the remaining programs, 37% reported containing wastewater and solids and hauling them to an approval disposal site and 77.8% allowed wastewater and solids to drain naturally on the ground away from the watercourse. Because totaling 37% and 77.8% exceeds 100%, we assume that some groups offer different waste treatment at different facilities under their jurisdiction.

Only 28.1% (9) of the groups responding to the survey said that they charged for decontaminations services. For those who charged for this service the fee ranged from \$5 to over \$300 for a large houseboat. Fees are often charged by concessionaires who provide contract decontamination services for some agencies/organizations. Charges are typically calculated using a flat fee, by the hour or by the foot. About 68% of those completing the survey said that their decontamination staff or contract business received their training from the WIT program.

### **Quarantine/Drying Time:**

Research by various authors has shown that Dreissenid mussels become desiccated and die when removed from the water and exposed air at rates that are determined by temperature, relative humidity and animal size. Thus, watercraft and equipment that have been exposed to Dreissenid mussels can be rendered harmless in terms of potential to establish a new populations by requiring that they be held out of the water long enough to kill all mussels on-board. Many groups have used drying (quarantine) as a way to prevent the spread of these mussels.

Fifty one percent of those responding to this survey used drying time/quarantine as an element, option or addition to their interception program. About half use the “quarantine time calculator” developed by the 100<sup>th</sup> Meridian Initiative (<http://www.100thmeridian.org/>) to determine the appropriate length of drying time . The remaining half used an alternative method. Alternative methods most often consisted of a set number of days regardless to temperature or humidity conditions ranging from 5-30 days. Agencies or organizations using alternative standards often do so to make it easier to codify in regulations that can be provided to boaters so they know what is expected to them. In some cases, these are unnecessarily long during hot weather months and others are two short during cooler and wetter times.

Twenty nine percent of those surveyed said that they provided a quarantine or holding area where watercraft or equipment can be left to serve the prescribed time period. However, the vast majority reported not providing such facilities and simply turning away watercraft that have not been out of the water long enough if they are deemed to be high risk.

### **Certification:**

A total of 27 agencies/organizations reported offering some form of “certification” of watercraft that had passed inspection, been decontaminated or met their drying time standards. In most cases, certification is offered as a public service to eliminate the need for re-inspection of local watercraft or as a way to screen-out low risk watercraft so that interception program assets can be focused on higher risk watercraft and equipment. A few entities reported using certification as a way to identify watercraft that had already been inspected so that an expedited process can be utilized the next time they are encountered. Certification is also used to provide proof of previous interception and/or decontamination for watercraft moving from one jurisdiction to another such as the certification offered at California boarder inspection stations.

Of those responding, about half reported using a “banding” system for certifying watercraft. Banding consists of applying some form of tamper-proof material that connects the watercraft or equipment to the trailer. A variety of materials and styles are used ranging from Mylar to cable, but the concept is the same; it prevents the watercraft from being launched into any other waterway between interceptions without tampering with, severing or removing the band. This type of system assures that the watercraft is

not used between contacts and maintains the integrity of the original certification. Many of the agencies/organizations that use the banding system also provide some form of paper certificate.

About 15% of the groups that reported employing certification use only a sticker or paper certificate to indicate watercraft that have passed inspection, been decontaminated or served the appropriate drying time. Unfortunately, this type of certification is less secure than banding because it doesn't take into account where the watercraft is used between the time it is originally certified and all future contacts.

When asked if they accepted the certifications issued by other programs as proof of a "clean" vessel, only 2.1% (1) said that they did so unconditionally. Ten percent accepted other jurisdictions certifications after a screening interview; 22.9% accepted others certification after a screening interview and brief inspection; 56 % said they did not accept another jurisdictions certification at all; and about 10% accepted certifications from waters within their system or only from nearby jurisdictions that they knew were operating programs that met their standards.

There are so many advantages to adopting a reciprocal certification program to both the public and those agencies/organizations responsible for implementing watercraft interception and mussel prevention programs in the West that is hard to imagine not working toward that goal in the future. It is clear from this survey that most programs recognize the need for better and more consistent protocols and standards for interception programs. We believe that once these are developed and adopted, the level of trust will raise the level necessary to achieve this goal.

### **Exclusion:**

About a third of those responding to survey questions regarding the issue of watercraft exclusion said that they currently excluded high risk watercraft/equipment due to a lack of funding for screening, inspection, decontamination or enforcing quarantine/drying time standards. When resources are available for trained inspectors and on-site decontamination, it is normally not necessary to turn watercraft or equipment away unless the owner/operator is uncooperative or staff and facilities are not capable of handling the situation. Generally speaking, exclusion is a "last resort" strategy and applied only to high risk watercraft when no other options are available.

Those watercraft that are considered high risk because of their last launch location or because the vessel is not cleaned, drained or dried are most often subjected to exclusion. But, 23% (6) of those responding to this issue reported excluding all watercraft from at least one waterbody within their jurisdiction due to lack of capacity to implement other strategies or because of agency/organization policy.

## **Uniform Minimum Protocols and Standards for Watercraft/Equipment Interception Programs in the Western United States:**

The series of survey questions that addressed “standardization” provided some very instructive responses. On the question of whether they believed that the development of uniform minimum standards for the various elements of watercraft/equipment interception programs would be beneficial, the overwhelming majority (77%-95% depending on the specific element) answered in the affirmative. The number one reason (92%) given was “increased and more consistent resource protection” followed by “increased boater understanding, predictability, support and cooperation”. Nearly 63% thought they would “improve customer service” and 55% thought that having uniform minimum standards that applied to all jurisdictions would “reduce staff time and expense”.

Despite the high level of interest in and support for the development and adoption of uniform minimum standards (and protocols), when asked to express their “concerns or reservations” about adopting such standards for the western US there were a large number of very thoughtful concerns raised, all of which are listed on pages 21-23 of this report. To summarize the most often raised of these; the assurance that all agencies/organizations that sign on will actually implement the protocols and standards; the cost requirements for both agencies/organizations mandated to implement and to the boating public; consistent and available training; differing missions, policies and laws that determine priorities and authority.

All of these are eminently legitimate questions that will make it a daunting task to standardize programs across the West. There are no quick answers or solutions to many of these issues. We believe strongly, however it is in everyone’s best self-interest if we are able to overcome these issues over time so that the benefits that nearly everyone acknowledges can be achieved in the very near future.

### **Coordination and Cooperation:**

All agencies and organizations employing watercraft/equipment interception programs, no matter how small, share the common goal of preventing an inadvertent introduction of Dreissenid mussels or other aquatic nuisance species via trailered watercraft moving between affected and unaffected waterways. Because mussels do not recognize jurisdictional boundaries, and even under the best of circumstances, only a relative small percentage of trailered watercraft are ever contacted, this can be best achieved by working cooperatively. No prevention program can stand alone and hope to succeed whether it’s outreach and education, early detection or watercraft interception. The best local programs can be jeopardized by neighbors who are inattentive and benefit from programs being carried-out by other jurisdictions.

It behooves us all to exploit every available opportunity for working together on the local, regional and national level. Watercraft/equipment interception programs provide us with one of the opportunities for cooperation.

## Findings

The emergence of a large number of watercraft and equipment interception programs in the western United States in the past two years has been dramatic in scope and meteoric in timing. There are now over 70 agencies and organizations and more than 500 full-time equivalent positions assigned to this task in 20 western states.

This recently completed survey, done at the request of the Western Regional Panel, is the first effort of its kind to identify all groups employing interception programs in the West and to attempt to define their parameters. The latter was done through this on-line survey distributed in January with responses due by the end of February 2009. We have reached the following conclusions based on the results of this survey:

1. Watercraft interception programs in the western US vary widely in size and scope; ranging from occasional ramp checks for high risk watercraft to all-inclusive programs that feature full-time inspection facilities operated all hours by highly trained professionals offering decontamination, quarantine and certification services.
2. Many of these programs, regardless of size and scope, employ similar protocols and standards in large measure because most received their initial training from the 100<sup>th</sup> Meridian's Watercraft Interception Training (WIT) program or from one of two training videos produced by the Pacific States Marine Fisheries Commission and United States Fish and Wildlife Service.
3. The most widely used interception program element is the screening interview, which is used to determine a vessel's recent history of use in order to gauge the level of risk it represents and to make an initial determination of the steps needed to assure that it is not transporting live mussels or veligers or other aquatic nuisance species of concern. Over 90 % of those groups responding to this survey used screening interviews, often combined with the inspection process.
4. It is difficult to accurately estimate the total number of waterways where active watercraft interception programs are in place on a region-wide basis because of the differing program levels employed by individual jurisdictions. We know, however, from the results of this survey, that staffed programs are in place on at least 120 waterbodies in the western US and that at least 100 additional waters have well-established self-inspection programs.
5. Over 80% of interception programs reporting include watercraft and/or equipment inspection as a cornerstone of their Dreissenid mussel prevention strategy. Most of these inspections take place at the point of entry or at the boat ramp, but, some occur at locations in-route, including multi-purpose border inspection stations and mussel/ANS specific highway check stations.

6. Watercraft/equipment decontamination services are provided in about half of the more seventy interception programs identified. These services typically range from portable hot water power wash systems to large semi-permanent decontamination stations capable of treating and recycling water and accommodating several watercraft at once.
7. Currently only about a quarter of those agencies/organizations that provide decontamination services charge for those services. Decontamination fees range from \$5 or \$300 depending on the entity providing the service and the size of the watercraft involved.
8. Less than half of those groups providing decontamination services currently contain or treat waste water and solids from the decontamination process. The remaining groups allow decontamination waste to naturally filter into the soil away from any watercourse.
9. Slightly more than half of the agencies doing decontamination also require a prescribed drying time/quarantine period following decontamination as an added safeguard.
10. Slightly less than half of the groups responding, use the 100<sup>th</sup> Meridian “quarantine calculator” to determine the length of drying/quarantine time required. Most of the remaining programs use a set number of days ranging from 5 to 30.
11. Only about 30% of current watercraft interception programs provide a designated quarantine facility for watercraft or equipment.
12. Slightly less than half of groups surveyed offer watercraft/equipment “certification” as part of their interception programs. Of those doing certification, about 45% use a “banding” system which attaches the watercraft to the trailer and is invalidated once that connection has been tampered with. The remainder use “stickers” and/or paper receipts.
13. Only about 2% of agencies/organizations engaged in watercraft interception programs in the West unconditionally accept the certification of another agency. Another quarter accept another jurisdiction’s certification following a screening interview and/or inspection, and nearly 60% do not except certifications issued by any other entity under any circumstances
14. About 35% of current programs exclude all or some watercraft/equipment from launching because of lack of capacity to conduct inspections and/or decontaminations. About a quarter of these exclude all watercraft, while about 60 % only exclude watercraft that are considered to be high risk either because of their last launch location or because they are not clean, drained and dry.

15. Over 90 % of those responding to the survey favored the development or uniform minimum standards for all elements of watercraft interception. The primary reasons given for that support was the belief that uniform standards would increase resource protection and improve public understanding and support.
16. Over 85% of those surveyed said that they would be willing to participate in a regional effort to develop uniform minimum standards and provided the name and contact information of the person who would represent them in this process.
17. The majority ( over 60%) believed that this would be best accomplished by either a workshop or sub-committee of involved groups.

### **Recommendations**

The primary purpose for completing this survey of watercraft interception programs in the western United States was to inventory current programs, define and understand their parameters and identify future opportunities for increased cooperation and coordination across jurisdictional boundaries in order to increase their effectiveness, achieve cost savings and provide better public service and increased public understanding, cooperation and support. Based on survey responses, we make the following recommendations to achieve these ends:

1. That a set of uniform minimum protocols and standards for watercraft interception program in the western US be developed, reconciled between all involved parties and formally adopted by as many agencies and organizations as possible or used as a reference document for future efforts to achieve these objectives.
2. That the Western Regional Panel on Aquatic Nuisance Species (WRP) take the lead in the development, reconciliation and adoption of uniform minimum protocols and standards for watercraft interception programs in the western US and work with other interested parties including the Western State Boating Administrators Association (WSBAA), Western Association of State Fish and Wildlife Agencies (WAFWA) as well as groups representing agriculture, water supply, hydropower and other user group interests and tribes to achieve that end.
3. That a similar survey be completed every three years to document the status of these programs, highlight new achievements and document developing issues, concerns and research needs.

## **Attachment # 1**

### **A List of Agencies and Organizations Implementing Watercraft Interception Programs in the Western United States.**

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Diamond Valley L, Metcalf Pond, Lexington R

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Briones Lake, Lake Chabot, Camanche Reservoir, Lafayette Reservoir, San Pablo Reservoir, Pardee Reservoir, San Leandro Reservoir

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Anderson Reservoir, Calero Reservoir, Coyote Lake, Stevens Creek Reservoir, Visona Lake, Lexington Reservoir, Uvas Reservoir

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[barbaraj.coulter@state.nm.us](mailto:barbaraj.coulter@state.nm.us)

### Navajo Lake, Heron L, Elephant Butte L, Couchas L

James Sandoval, Fisheries Biologist  
U.S. Fish and Wildlife Service  
New Mexico Fish and Wildlife Conservation Office  
3800 Commons NE  
Albuquerque, NM 87109  
505-342-9900 ext. 112  
[james\\_sandoval@fws.gov](mailto:james_sandoval@fws.gov)

## **Oklahoma:**

### Statewide

Jeff Boxrucker, Assistant Chief Fisheries  
Oklahoma Department of Wildlife Conservation  
P.O. Box 53465  
Oklahoma City, OK 73153  
405-521-4606  
[jboxrucker@odwc.state.ok.us](mailto:jboxrucker@odwc.state.ok.us)

## **Oregon:**

### Statewide

Randy Henry, Operations Policy Analyst  
Oregon Marine Board  
P.O. Box 14145  
435 Commercial St. NE #400  
Salem, OR 97309  
503-378-2617  
[randy.h.henry@state.or.us](mailto:randy.h.henry@state.or.us)

Rick Boatner, Invasive Species Wildlife Integrity Coordinator  
Oregon Department of Fish and Wildlife  
Wildlife Division  
3406 Cheery Avenue NE  
Salem, OR 97303  
503-947-6308  
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## **South Dakota:**

### Statewide

Andy Burgess, ANS Coordinator  
South Dakota Department of Game, Fish and Parks  
523 East Capitol Avenue  
Pierre, SD 57501  
605-773-2743  
[andy.burgess@state.sd.us](mailto:andy.burgess@state.sd.us)

## **Texas:**

### Statewide

Dr. Earl Chilton, Aquatic Habitat Enhancement Program Director  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, TX 78744  
512-389-4652  
[earl.chilton@tpwd.state.tx.us](mailto:earl.chilton@tpwd.state.tx.us)

## **Utah:**

### Statewide

Larry Dalton, ANS Coordinator  
Utah Division of Wildlife Resources  
1594 W. North Temple, Suite 2110  
P.O. Box 146301  
Salt Lake City, UT 84114  
801-652-2465  
[larrydalton@utah.gov](mailto:larrydalton@utah.gov)

### Lake Powell

Mark Anderson, Aquatic Ecologist  
National Park Service  
Glen Canyon NRA  
P.O. Box 1507  
Page, AZ 86040  
928-608-6266  
[mark\\_anderson@nps.gov](mailto:mark_anderson@nps.gov)

## **Washington:**

### Statewide

Eric Anderson, Fisheries Patrol Sergeant, AIS  
Washington Department of Fish and Wildlife  
600 N Capital Way  
Olympia, WA 98502  
360-902-2426  
[andereca@dfw.wa.gov](mailto:andereca@dfw.wa.gov)

Allen Pleus, ANS Coordinator  
Washington Department of Fish and Wildlife  
600 N Capital Way  
Olympia, WA 98502  
(360) 902-2724  
[pleusaep@dfw.wa.gov](mailto:pleusaep@dfw.wa.gov)

## **Wyoming:**

### Statewide

Dirk Miller, Fisheries Management Coordinator  
Wyoming Department of Game and Fish  
5400 Bishop Blvd  
Cheyenne, WY 82006  
307-777-4559  
[dirk.miller@wgf.state.wy.us](mailto:dirk.miller@wgf.state.wy.us)

**Attachment # 2**

**Summary Tables of Watercraft/Equipment Interception Programs by State and Waterbody**

<i>California:</i>							
Waterbody	Self-Inspection	Screening Interview	Inspection	Decontamination	Quarantine / Drying	Exclusion	Other
Lake Henshaw				X			
Clear Lake		X	X	X	X	X	
Whiskeytown Lake	X	X	X				
Big Bear Lake							
Pinto Lake		X	X			X	
Lake Piru			X		X		
Lake Cachuma		X	X		X	X	
Anderson Reservoir	X	X	X		X	X	
Southerland Reservoir		X				X	
Lake Casitas	X	X	X	X	X	X	X
Loch Lomond		X				X	
San Justo Reservoir						X	
Lake Tahoe		X	X	X		X	
Crowley Lake		X	X	X		X	
Camanche Reservoir	X	X	X	X	X	X	
Lake Dixon						X	
Lake Pillsbury	X	X					
Callero Reservoir	X	X	X		X	X	
Coyote Reservoir	X	X	X		X		
Stevens Creek Reservoir			X				
Contra Loma Reservoir	X	X	X		X	X	
Vail Lake	X	X	X		X	X	
Diamond Valley Lake		X	X	X	X	X	
Diaz Lake	X						
Klondike Reservoir	X						
Indian Valley Reservoir	X	X					
Highland Springs Reservoir		X	X		X	X	
Cache Creek Reservoir	X		X				
Metcalf Pond	X		X				
Lexington Reservoir	X		X			X	
Uvas Reservoir						X	
Vasona Lake			X			X	
Lafayette Reservoir		X	X			X	
Jim Baker Reservoir						X	
Pardee Reservoir	X	X	X	X	X	X	
San Pablo Reservoir		X	X			X	

<i>Colorado:</i>							
Waterbody	Self-Inspection	Screening Interview	Inspection	Decontamination	Quarantine / Drying	Exclusion	Other
Stradley Lake		X	X	X	X	X	
Blue Mesa Reservoir	X		X	X			
Wolford Mountain Reservoir		X	X	X			
Bergen Lake			X	X	X		
Quincy Reservoir		X	X		X	X	
Highline Lake			X	X			
Riffle Gap Reservoir			X	X			
North Sterling Reservoir			X	X			
Yampa/Elkhead			X	X			
Lake Colorado			X	X	X		
Bear Creek Reservoir		X	X	X			
Shadow mountain Reservoir			X	X			
John Martin Reservoir			X	X			
Navajo Lake			X	X			
Lake Pueblo			X	X			
Spinney Mountain Reservoir			X	X			
Eleven mile Reservoir		X	X	X			
Antelope Reservoir		X	X	X	X	X	
Rampart Reservoir		X	X	X	X	X	
Williams Fork Reservoir		X	X	X	X	X	
Tarryall Reservoir		X	X	X	X	X	
Grand Lake		X	X	X			
Chatfield Reservoir		X	X	X	X	X	
Cherry Creek Reservoir			X	X			
Boulder Reservoir	X	X	X		X	X	
Boyd Lake			X	X			
Jackson Lake			X	X			
Ridgeway Reservoir			X	X			
Aurora Reservoir		X	X	X		X	
Dillon Reservoir	X	X	X	X	X	X	
Lake Granby		X	X	X		X	
Trinidad Reservoir			X	X			
Antero Reservoir		X	X	X	X	X	

<i>Utah:</i>							
Waterbody	Self-Inspection	Screening Interview	Inspection	Decontamination	Quarantine/Drying	Exclusion	Other
38-43 High Use Waters		X	X	X	X	X	
100+ Other Boatable Waters	X						
Lake Powell	X	X	X	X	X	X	X
Colorado R (Glen Canyon to Lee's Ferry)	X			X			

<i>Kansas:</i>							
Waterbody	Self-Inspection	Screening Interview	Inspection	Decontamination	Quarantine/Drying	Exclusion	Other
Wabaunsee Lake	X	X	X	X		X	
Lake Kohola	X		X		X	X	
Marion County Park Lake		X	X			X	

<i>New Mexico:</i>							
Waterbody	Self-Inspection	Screening Interview	Inspection	Decontamination	Quarantine/Drying	Exclusion	Other
Navajo Lake	X	X	X				
Elephant Butte Reservoir	X	X	X				
Heron Lake	X	X	X				
Conchas Lake	X	X	X				
All Major Lakes/Reservoirs	X						

## **Appendices**

- 1. Copy of the Western Regional Panel's Watercraft Interception Program Survey Form***
- 2. A List of Agencies and Organizations Responding to the Western Regional Panel's Survey of Watercraft Interception Programs in the Western United States and the Effective Date/Time of Their Response***

*Appendix #1*

*Copy of the Western Regional Panel's Watercraft  
Interception Survey Form*



**FINAL Watercraft Interception Program Survey**

1. Answer only those questions that apply to your activities in 2008 or your planned activities for 2009.
2. Check all boxes that apply for multiple choice questions.
3. Either e-mail electronic copies of all requested documents to Bill Zook at [bjzook2@msn.com](mailto:bjzook2@msn.com) or mail to 320 E. Penzance Road Shelton, WA 98584.
4. If you have any questions or need clarification on any portion of this survey please e-mail them to [bjzook2@msn.com](mailto:bjzook2@msn.com) or call (360) 427-7676 after 1/11/09.
5. Your completed survey will be sent automatically when you click on "Done" at the bottom of the last page.
6. Please complete the survey by the end of business, Wednesday, January 30, 2009. **DO NOT RETURN BY MAIL!**

We appreciate you taking the time to complete this survey!  
The results will be used to improve our collective capacity to protect water resources in the western U.S.

**1. Agency/Organization:**

**2. Person Completing the Survey:**

**3. Job Title:**

**4. Street Address:**

**5. City, State, Zip Code**

**6. E-Mail Address:**

**7. Contact Phone:**

**8. Has your agency/organization employed any of the following measures to prevent Dreissenid mussels from entering or leaving a Waterbody under your jurisdiction on trailered watercraft or equipment in the past year (2008) or have plans to in the coming year (2009)?**

**Measures**

<input type="checkbox"/> Voluntary/Mandatory Self-Inspection (VSI)
<input type="checkbox"/> Screening Interviews (SI)
<input type="checkbox"/> Inspection (IN)
<input type="checkbox"/> Decontamination (DC)
<input type="checkbox"/> Quarantine/Drying (QD)
<input type="checkbox"/> Exclusion (Not allowed to launch) (EX)
<input type="checkbox"/> Other (please explain in text box question 17)

**9. If yes, please List the name(s) of all applicable waters where your agency/organization has primary responsibility, followed by the abbreviation for the measure(s) employed there?**

**Example: Heartbreak Lake - SI, IN, DC**

**If your agency/organization only does random or periodic inspections please go to Question 10.**

Waterbody, measure(s)	<input type="text"/>

**10. If you do not employ regular inspection/decontamination measures at specific waterbodies and times, please briefly describe your agency/organizations watercraft/equipment protection program.**

**11. Approximately how many FTE's does your agency/organization have assigned or plans to assign to this task on an annual basis?**

Full-time	<input type="checkbox"/>
Part-time	<input type="checkbox"/>
Seasonal	<input type="checkbox"/>
None	<input type="checkbox"/>

**12. If your agency/organization conducted or plans to conduct SCREENING INTERVIEWS as a means of determining relative risk that watercraft or equipment may be harboring Dreissenid mussels, please answer the following questions and E-MAIL AN ELECTRONIC COPY OR MAIL A HARD COPY OF YOUR INTERVIEW FORM OR SCREENING QUESTIONS TO ONE OF THE ADDRESSES GIVEN IN THE INSTRUCTIONS ABOVE.**

**Where do the screening interviews typically take place?**

- Entry station
- Launch area
- Access road
- Some place else (please explain in text box question 17)

**13. Are all watercraft/equipment operators interviewed or only those that meet certain criteria?**

- All
- Random
- Selective (meeting certain criteria, go to question 14 below)

**14. If you answer "Selective" to question 13 above, please describe the criteria used to determine what watercraft/equipment are "selected" for screening interviews.**

**15. Approximately what % of watercraft/equipment utilizing your facilities/waterbodies are subjected to a screening interview?**

**16. What actions can result from the screening interview process?**

- Permission to launch/leave
- Follow-up inspection
- On-site decontamination available
- Off-site decontamination required
- Drying time or quarantine required
- Exclusion (not allowed to launch)
- Other (please explain in text box question 17)



**21. What type of training have watercraft/equipment inspectors under your jurisdiction received?**

- Field training offered by your agency/organization
- Field training offered by an outside provider
- Video or classroom training
- Other (Please explain in text box question 22)

**22. Briefly describe your procedures and protocols for watercraft inspections if you do not intend to mail a copy.**



**23. If your agency/organization offers any form of watercraft/equipment DECONTAMINATION, please answer the following questions and E-MAIL AN ELECTRONIC COPY OR MAIL A HARD COPY OR PROVIDE A REFERENCE DESCRIBING THE SERVICES YOU OFFER AND THE STANDARDS YOU USE TO ONE OF THE ADDRESSES GIVEN IN THE INBSTRUCTIONS ABOVE.**

**Does your agency/organization do watercraft/equipment decontamination?**

- Yes
- No

**24. What type of watercraft/equipment decontamination services does your agency/organization provide?**

- On-site portable powerwash unit
- Permanent on-site powerwash facility
- Off-site powerwash facility
- Chemical decontamination
- Send to private off-site decontamination provider
- Other (Please explain in text box question 32)

**25. If your agency/organization provides decontaminations services or contracts with some who does, how are wastewater and solids processed following a water or chemical decontamination?**

- Closed recycle system, solids filtered and treated as refuse
- Wastewater and solids captured and trucked to a approved disposal area
- Wastewater and solids go into sewer or septic system
- Wastewater and solids are allowed to filter naturally into the permeable surface substrate away from the water
- Other (please explain in text box questions 32)

**26. Does your agency/organization or those who you refer to charge for decontamination services?**

- Yes
- No

**27. If your agency/organization or those who you refer to do charge for decontamination services, what is the typical cost and who receives the payment?**

**28. What type of training do decontamination equipment operators under your jurisdiction receive?**

- In-house field training
- 100th Meridian Level Two WIT training
- Other (please explain in text box question 32)

**29. Does your agency/organization require a specific period of quarantine or drying time following decontamination?**

- Yes
- No

**30. If you answer to question 29 above is yes, how is the amount of drying time required determined?**

- Use 100th Meridian "quarantine calculator"
- Other (Please explain in text box question 32)

**31. Does your agency/organization quarantine watercraft/equipment at a designated "holding area"**

- Yes
- No

**32. Briefly describe your procedures and protocols for watercraft decontamination if you do not intend to mail a copy. Be sure to address temperature, concentrations, equipment, duration and other aspects that you feel make-up the important core principles of your decontamination program.**



**33. If your agency/organization offers any form of watercraft/equipment CERTIFICATION or plans to in 2009, please answer the following questions and E-MAIL AN ELECTRONIC COPY OR MAIL A HARD COPY OR REFERENCE DESCRIBING THE CERTIFICATION SYSTEM AND PROTOCOL YOU USE TO ONE OF THE ADDRESSES GIVEN IN THE INSTRUCTIONS ABOVE.**

**Does/will your agency/organization offer watercraft/equipment certification?**

- Yes
- No

**34. What type of certification is offered?**

- A sticker attached to the vessel/equipment/trailer
- A wire cable lock connecting the vessel/equipment to the trailer
- A paper receipt or letter
- Other (Please explain in text box question 36)

**35. Do you accept "certifications" from other jurisdictions when presented by the operator as proof of a previous inspection?**

- Yes, unconditionally
- Yes, after a screening interview
- Yes, after an screening interview and brief inspection
- No, treated as any other watercraft/equipment
- Other (Please explain in text box question 36)

**36. Briefly describe your procedures and protocols for watercraft/equipment certification if you do not intend to mail a copy.**

**37. Does your agency/organization EXCLUDE or plan to exclude some or all watercraft/equipment from any Waterbody under your jurisdiction due to lack of resources for screening, inspection, decontamination or enforcing quarantine/drying time restrictions?**

- Yes
- No

**38. What types of watercraft/equipment are excluded?**

- All those who are considered "high risk" due to last launch location
- Watercraft/equipment that are not clean, drained and dry

- All non-local watercraft/equipment
- All motorized watercraft
- All watercraft/equipment
- Other (please explain in text box question 39)

**39. Please explain your rationale and use of exclusion if you check the "other" box to question 38 above.**

**40. Do you believe that UNIFORM MINIMUM STANDARDS for any of the following protective measures (more restrictive standards could be added by individual jurisdictions as needed) relating to the overland transport of watercraft and equipment in the western US might be beneficial?**

- Screening interview (form, questions, protocol)
- Inspection (form, procedures and protocol)
- Decontamination (procedures, standards, protocol)
- Quarantine/drying time (quarantine calculator)
- Certification (system, protocols)

**41. In what way(s) might this be beneficial to your agency/organization?**

- Improved and more consistent resource protection
- Reduced staff time and expense
- Improved customer service
- Increased boater understanding, predictability, support and cooperation
- Other (Please explain in text box question 42)

**42. What concerns or reservations would you have about adopting UNIFORM MINIMUM STANDARDS for watercraft/equipment transport issues in the Western US?**



**43. Would your agency/organization be willing to participate in the development of UNIFORM MINIMUM STANDARDS for watercraft/equipment inspection and decontamination?**

<input type="checkbox"/> Yes
<input type="checkbox"/> No

**44. If your answer is yes to question 43 above, please provide the name, e-mail address and contact telephone number of the person who would represent your agency/organization in this process.**



**45. How do you think this could best be accomplished?**

<input type="checkbox"/> A workshop of all agencies/organizations currently involved
<input type="checkbox"/> A contractor to develop a list of recommendations for electronic review and approval
<input type="checkbox"/> A sub-committee of involved agencies to develop recommendations for electronic review and approval
<input type="checkbox"/> Other (Please explain in text box question 46)

**46. Please describe any alternative process you would recommend for reaching consensus on UNIFORM MINIMUM STANDARDS.**



YOU HAVE NOW COMPLETED THIS SURVEY AND YOUR ANSWERS WILL BE AUTOMATICALLY FORWARDED TO THE COMPLIER FOR SORTING AND ANALYSIS. YOU WILL RECIEVE A COPY OF THE REPORT AND RECOMMENDATIONS RESULTING FROM THIS SURVEY IN 30-60 DAYS. YOU MAY BE CONTACTED PRIOR TO THAT TO ASK FOR YOUR PARTICIPATION IN THE DEVELOPMENT OF UNIFORM MINUMUN STANDARDS IF THE WESTERN REGIONAL PANEL DETERMINES FROM SURVEY RESPONSE THAT THE MAJORITY OF SURVEY PARTICIPANTS SUPPORT THEIR DEVELOPMENT.

Please don't forget to e-mail and electronic version or mail a hard copy of the forms, written protocols and standards requested in the questions above.

## *Appendix #2*

### *A List of Agencies and Organizations Responding to the Western Regional Panel's Survey of Watercraft Interception Programs in the Western United States and the Effective Date of Their Response*

1.	East Bay Regional Park District	Wed, Feb 25, 2009 12:07 PM
2.	Ruth Lake Community Services District	Wed, Feb 25, 2009 9:57 AM
3.	County of San Luis Obispo	Thu, Feb 19, 2009 1:56 PM
4.	City of Westminster	Tue, Feb 17, 2009 10:28 AM
5.	USFWS	Fri, Feb 13, 2009 10:25 AM
6.	Colorado River Water Conservation District	Thu, Feb 12, 2009 9:25 AM
7.	National Park Service	Tue, Feb 10, 2009 12:10 PM
8.	Vista Irrigation District	Tue, Feb 10, 2009 10:20 AM
9.	City of Poway	Tue, Feb 10, 2009 9:27 AM
10.	Tommy's Slalom Shop Inc	Tue, Feb 10, 2009 8:23 AM
11.	City of Lakewood Regional Parks	Tue, Feb 10, 2009 7:31 AM
12.	Lake County Water Resources Division	Mon, Feb 9, 2009 5:52 PM
13.	CA State Parks	Mon, Feb 9, 2009 3:56 PM
14.	Texas Parks and Wildlife Department	Thu, Feb 5, 2009 9:06 AM
15.	City of Eskridge-Lake Wabaunsee	Tue, Feb 3, 2009 10:54 PM
16.	AK Dept. of Fish and Game	Tue, Feb 3, 2009 12:47 AM
17.	Colorado State Park	Fri, Jan 30, 2009 3:05 PM
18.	USFWS	Fri, Jan 30, 2009 1:58 PM
19.	National Park Service	Fri, Jan 30, 2009 9:57 AM
20.	City of Aurora	Fri, Jan 30, 2009 9:37 AM
21.	Lake Kohola	Thu, Jan 29, 2009 4:33 PM
22.	Oregon State Marine Board	Thu, Jan 29, 2009 2:37 PM
23.	National Park Service	Wed, Jan 28, 2009 12:26 PM
24.	Utah Division of Wildlife Resources	Wed, Jan 28, 2009 11:19 AM

25.	Marion County Park and Lake	Wed, Jan 28, 2009 9:11 AM
26.	State of Idaho	Wed, Jan 28, 2009 8:58 AM
27.	Oklahoma Department of Wildlife Conservation	Wed, Jan 28, 2009 8:13 AM
28.	Colorado Division of Wildlife	Tue, Jan 27, 2009 9:38 PM
29.	Washington Dept of Fish & Wildlife	Tue, Jan 27, 2009 4:41 PM
30.	Montana Fish, Wildlife & Parks	Tue, Jan 27, 2009 4:37 PM
31.	California Department of Fish and Game	Tue, Jan 27, 2009 2:48 PM
32.	Denver Water	Tue, Jan 27, 2009 2:37 PM
33.	Helix Water district / Lake Jennings	Tue, Jan 27, 2009 1:52 PM
34.	Idaho Dept. of Fish and Game	Tue, Jan 27, 2009 1:13 PM
35.	big bear municipal water district	Tue, Jan 27, 2009 10:30 AM
36.	City Of Watsonville	Tue, Jan 27, 2009 9:48 AM
37.	California Department of Food and Agriculture	Mon, Jan 26, 2009 2:25 PM
38.	United water Conservation District	Mon, Jan 26, 2009 9:45 AM
39.	Missouri Department of Conservation	Mon, Jan 26, 2009 7:43 AM
40.	Wyoming Game and Fish Department	Fri, Jan 23, 2009 4:44 PM
41.	Pend Oreille Basin Commission	Fri, Jan 23, 2009 2:47 PM
42.	Frisco Bay Marina	Fri, Jan 23, 2009 1:20 PM
43.	Santa Barbara County Parks	Fri, Jan 23, 2009 12:58 PM
44.	Quagga Inspection Services	Fri, Jan 23, 2009 11:42 AM
45.	City of San Diego, Water Department	Sun, Jan 18, 2009 3:44 PM
46.	WA State Dept. of Fish & Wildlife	Thu, Jan 15, 2009 11:29 AM
47.	Nebraska Game and Parks Commission	Wed, Jan 14, 2009 2:44 PM
48.	Bureau of Reclamation	Wed, Jan 14, 2009 1:50 PM
49.	City of Boulder	Tue, Jan 13, 2009 1:57 PM
50.	NM Dept of Game and Fish	Tue, Jan 13, 2009 1:23 PM

51.	National Park Service / Glen Canyon NRA	Thu, Jan 8, 2009 2:57 PM
52.	South Dakota Department of Game, Fish and Parks	Thu, Jan 8, 2009 2:16 PM
53.	Dillon Marina	Thu, Jan 8, 2009 11:32 AM
54.	QuaggaInspections.Com	Thu, Jan 8, 2009 11:25 AM
55.	Lake Casitas Recreation Area	Wed, Jan 7, 2009 4:53 PM
56.	Iowa Department of Natural Resources	Wed, Jan 7, 2009 3:23 PM
57.	North Dakota Game and Fish Department	Wed, Jan 7, 2009 12:08 PM
58.	Kansas Dept. of Wildlife and Parks	Wed, Jan 7, 2009 7:47 AM
59.	Santa Clara County Parks and Recreation Dept.	Tue, Jan 6, 2009 6:17 PM
60.	Nevada Department of Wildlife	Tue, Jan 6, 2009 5:32 PM
61.	City of Escondido	Tue, Jan 6, 2009 4:31 PM
62.	East Bay Municipal Utility District	Tue, Jan 6, 2009 4:14 PM
63.	Arizona Game and Fish Department	Tue, Jan 6, 2009 4:10 PM
64.	City of Los Angeles, Department of Water and Power	Tue, Jan 6, 2009 3:12 PM
65.	City of Santa Cruz, California	Tue, Jan 6, 2009 3:08 PM
66.	City of Westminster	Tue, Jan 6, 2009 2:37 PM
67.	San Benito County Water District	Tue, Jan 6, 2009 2:33 PM
68.	Oregon Dept. of Fish and Wildlife	Tue, Jan 6, 2009 2:29 PM
69.	Tahoe Resource Conservation District	Tue, Jan 6, 2009 2:21 PM