

# Oregon's Aquatic Invasive Species Prevention Program



## 2012 Program Report



Prepared by:

Martyne J Reesman – Oregon Department of Fish & Wildlife  
Rick Boatner – Oregon Department of Fish & Wildlife  
Glenn Dolphin – Oregon Marine Board

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## Executive Summary

In 2009, the Oregon Legislature passed House Bill 2220 which created an Aquatic Invasive Species (AIS) Prevention Program and established a new user fee to boaters; "Aquatic Invasive Species Prevention Permit". The AIS Prevention Program is co-managed by the Oregon Department of Fish and Wildlife (ODFW) and Oregon State Marine Board (OSMB). The primary objective is to keep Oregon's waters free of invasive species. During 2012, ODFW deployed four Watercraft Inspection Teams near Central Point, Hines, Klamath Falls and La Grande. The two technician teams conducted 4,675 watercraft inspections and 51 watercraft decontaminations; 18 of which were for quagga or zebra mussels. Roadside inspection compliance rate was 70%. ODFW and OSMB participated in 19 public events (e.g. Blackbird Trout Derby, Central Oregon Sportsman's Show, Oregon State Fair, Pacific Northwest Sportsman's Show, Portland Boat Show, and Youth Outdoor Day) and sponsored 33 trainings or presentations for fishing groups, agency staff, concerned citizens and school groups. Since 2009, 589 Oregonians have attended watercraft inspection training events.

To implement the AIS Prevention Program a new user fee (AIS Prevention Permit, \$5) on watercraft was established. Revenue generated from AIS Prevention Permit for 2012 totaled \$731,474. In 2012, the AIS Prevention Program funded three full-time positions (one OSMB AIS coordinator and two ODFW AIS technicians), nine seasonal or part-time positions (seven ODFW AIS technicians) and partial funding for one ODFW Invasive Species Coordinator and one OSMB accounting technician. State, county and local law enforcement agents issued 877 warnings and 367 citations related to AIS violations.

## Program Background

In 2001, to respond to the growing threat of invasive species to the state, the Oregon Invasive Species Council (OISC) was created by the Oregon State Legislature. The mission of the Council is to conduct a coordinated and comprehensive effort to keep invasive species out of Oregon and to eliminate, reduce, or mitigate the impacts of invasive species that are already established. In 2001, Portland State University (PSU) developed an Oregon Aquatic Nuisance Species Management Plan, which was the first step to outline activities in the state that were needed to address the impacts of AIS.

By 2007, an extremely destructive fresh water invasive species called the quagga mussel (*Dreissena bugensis*), was detected in Lake Mead, Nevada. As a result of this infestation many western states implemented programs to protect water bodies against the spread of this highly destructive species. Most of these efforts focused on establishing recreational watercraft inspection stations and implementing early detection and rapid response strategies.

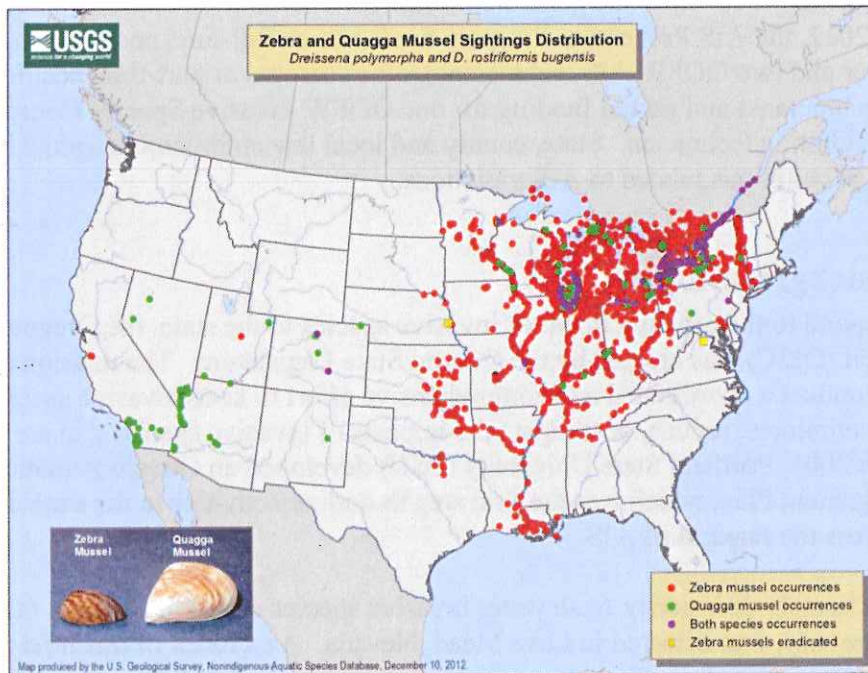
The OISC requested that ODFW, OSMB, Oregon Department of Agriculture (ODA), and PSU jointly lead the development of a state plan to address the growing threat and spread of the quagga mussel. As a result, the 2009 Oregon Legislature approved an AIS Prevention Program modeled after a similar program in Idaho. To implement the AIS Prevention Program a new user fee on watercraft (both motorized and non-motorized) was established. This new dedicated funding was designed to go towards mobile watercraft inspection teams, public education and outreach efforts and implement other related activities to protect Oregon against AIS.

Two program changes occurred in 2011, with the passage of House Bill's 3399 and 3121. House Bill 3399 requires all persons transporting watercraft to stop at an AIS watercraft inspection if an inspection station is observed and open. House Bill 3121 lowered the fines associated with not carrying an AIS Prevention Permit aboard a watercraft when on Oregon waters to \$30 for non-motorized and \$50 for motorized watercraft.

## Program Goal

The goal of the AIS Prevention Program is: "To protect Oregon against the introduction and spread of AIS". Quagga and zebra mussels (*D. polymorpha*) (Figure 1), along with hydrilla (*Hydrilla verticillata*) and Asian carp (Bighead and Silver) (*Hypophthalmichthys nobilis* and *H. molitrix*) are among the top species of concern to keep out of the state. Species like Eurasian watermilfoil (*Myriophyllum spicatum*) and New Zealand mudsnails (*Potamopyrgus antipodarum*) already contaminate some Oregon waterbodies and need to be contained at current locations.

Figure 1. Zebra and quagga mussel distribution map, December 2012.



## Agency Roles

### Oregon Department of Fish and Wildlife

ODFW has the primary responsibility of operating the watercraft inspection stations. Watercraft inspection stations are staffed by trained ODFW employees that have the necessary skills and equipment to inspect and decontaminate watercraft. Each technician has completed the 100<sup>th</sup> Meridian Initiative Level 1 – Watercraft Inspection Training and an in-house Level II Decontamination training. Technicians were divided into four teams (two people/team) stationed in Central Point, Hines, Klamath Falls, and La Grande. The Central Point and La Grande

watercraft inspection stations opened in early May; Klamath Falls and Hines watercraft inspection stations opened the week of June 10<sup>th</sup>. Inspection stations were typically open Tuesday through Saturday.

The Invasive Species Coordinator and AIS senior technician are stationed in Salem. Both positions have a variety of duties; working closely with the Watercraft Inspection Teams; developing and disseminating invasive species educational material (fact sheets, brochures, risk assessments and PowerPoint presentations) and participating in AIS education and outreach events.

### **Oregon State Marine Board**

OSMB has the lead role to implement the AIS Permit Program for all watercraft. This permit program is the funding mechanism that supports all of the activities outlined in this annual report. All permit revenues are deposited into the AIS Prevention Fund. Education and Outreach efforts along with coordination with law enforcement agencies are among the top priorities for the OSMB to accomplish.

Operators of motorized watercraft (regardless of length) and non-motorized watercraft 10 feet in length or longer, are required to purchase and carry an AIS Prevention Permit. Oregon registered watercraft owners pay a \$5 surcharge every two years when they pay their biennial registration. Current registration decals serve as proof of payment into the AIS Prevention Program. Non-motorized watercraft 10 feet in length or longer are required to purchase a \$5 annual permit and carry it onboard while boating. These non-motorized permits are transferable between watercraft within this category and out-of-state visitors using non-motorized watercraft pay the same permit fee as Oregon residents. Non-resident motorized watercraft operators are required to purchase a \$20 annual permit. These permits purchased by non-resident boaters (motorized) are also transferable to use within their respective category.

### **Public Presentations and Events**

Education and outreach is a key component of the AIS Prevention Program. This is achieved by providing printed materials and interacting with the public at inspection stations, attending boating events, teaching watercraft inspection and invasive species workshops, or attending public meetings to speak about the program. In 2012, OSMB and ODFW were invited to give 33 AIS presentations to a variety of groups (e.g. Siuslaw, Knappa and Roseburg school districts; Umpqua Fisherman's Association, other ODFW programs, US Forest Service, Federal Lakes Recreation Committee for Detroit Lake, etc) throughout the state. Additionally, OSMB and ODFW's presence was requested at 19 public events (e.g. Blackbird Trout Derby, Central Oregon Sportsman's Show, Cherish the Chetco, Oregon State Fair, Oregon Ocean Paddling Society Annual Meeting, Pacific Northwest Sportsman's Show, Portland Boat Show, Willowa Resources Watershed Festival, and Wildlife Society Annual Meeting) These contacts provided face-to-face opportunities to explain the program and its environmental benefits.

## Watercraft Inspection Trainings

### Level 1 – Watercraft Inspection Training

Since 2009, ODFW, OSMB and PSU have been collaborating to offer a special training course to the public and government agencies upon request. The “Level 1 Watercraft Inspection Training” is a 3.5 hour class teaching students about the biology and behavior of AIS of concern to Oregon (and those already present in the state), the specifics of the AIS permit program and how to perform a watercraft inspection. Students are certified to perform watercraft inspections upon completion of this course. In 2012, over 185 individuals received this training (Appendix Table 1).

### Level 2 – Watercraft Inspection Training

To teach a Level 1 Watercraft Inspection Training course all training instructors have completed a “Level 2 Watercraft Inspection Training” class held at Lake Mead, Nevada. The Level 2 training is an advanced watercraft inspection and decontamination course. The two-day course provides hands-on training; students learn how to recognize watercraft contaminated with invasive mussels, how to operate a decontamination unit with water heated in excess of 140° F and the proper method for decontaminating watercraft. Training occurs at Lake Mead due to its infestation with quagga mussels, while giving students the ability to see first-hand the destructive nature of quagga mussels. For more information regarding this class please visit the Aquatic Nuisance website: [www.aquaticnuisance.org/wit/level-two-wit-training](http://www.aquaticnuisance.org/wit/level-two-wit-training).

## Oregon Department of Fish Wildlife Watercraft Inspection Team Activity

### Summary of Inspections

ODFW completed 4,675 watercraft inspections. The majority (98%) of inspections occurred at established roadside inspection stations. Watercraft inspection teams conducted a total of 4,588 inspections (Appendix Table 2) at these stations: Highway 97 Rest Area, south of Klamath Falls (Midland); Interstate 5 Port of Entry, north of Ashland (Ashland); Interstate 84 Baker Valley Rest Area, north of Baker City (Baker Valley); Junction of highways 20 and 395, at Riley (Riley). Additional roadside inspections occurred at Highway 101 Port of Entry south of Brookings (Brookings) and Highway 395 south of Lakeview (Lakeview). Watercraft from 37 different states and two provinces were inspected (Appendix Table 3); 58% were from Oregon, 17% California, 10% Washington, 7% Idaho and the remaining 8% were from 33 other states, British Columbia and Alberta.

To determine compliance rates, AIS technicians recorded the number of watercraft that failed to stop at an inspection station. On days when observations were possible, 4,100 watercraft inspections were performed with 1,768 watercraft by-passing inspection sites, which resulted in a 70% compliance rate; compliance rates have been increasing by at least 20% each year.

In addition to established inspection stations, AIS staff completed 87 inspections throughout Oregon. Additional inspections occurred at Aaron Mercer Reservoir’s “Dallas Boys Basketball Fishing Tournament”, Diamond Lake’s “Blackbird 5,000 Fishing Derby”, Haystack Reservoir’s “High Desert Showdown Drag Boat Race”, and Wallowa Lake’s “Wallowa Resources

Watershed Festival". The remaining 31 inspections occurred at the request of watercraft owners at their residence or a designated location.

### Decontamination Equipment

Six self-contained mobile decontamination units are operated by trained ODFW staff. Each unit contains a diesel powered water heater (capable of temperatures > 140°F), generator and a pressure washer (3,000psi). The decontamination units meet or exceed the standards for watercraft decontamination of quagga and zebra mussels according to the 100<sup>th</sup> Meridian Initiative. Five of the six decontamination trailers have a 180 gallon water tank and the sixth trailer has two 250 gallon water tanks. Additionally, each trailer contains a catch basin tarp (10'x 26'x 2'' with round foam walls) which collects water during a watercraft decontamination and a siphon pump to recapture the water for proper disinfection and disposal.

### Summary of Decontaminations

Fifty-one of the 4,675 watercraft inspected were contaminated with aquatic invasive species; 32 had plant material (i.e. Eurasian watermilfoil) or other non-native organisms (e.g. snails, saltwater mussels, etc) present, in which a simple decontamination was performed. The remaining 18 (Appendix Table 4) were contaminated with either quagga or zebra mussels. The presence of zebra or quagga mussels required hot water-high pressure decontamination, which was performed on at the inspection site or at an ODFW designated location.



Pictured above Jenna Kirkbride (left), ODFW AIS Technician, is decontaminating a California boat- which was last used on Lake of the Ozarks, Missouri-due to quagga mussel infestation (June 20, 2012). Pictured above (right) decontamination is being performed on boat last used on Lake Havasu, Arizona (May 2012).



Pictured above (left) are Flexifloat<sup>®</sup> sectional barges in transport: photo courtesy of Idaho Department of Transportation. Pictured above (right) are of the delivery lot in Astoria where the inspections and decontaminations occurred.

## Watercraft Inspection Station Signage

Roadside inspection sites were identified by three 48" x 48" orange reflective diamond shape signs and one 60" x 48" white reflective rectangular sign, all with 6-8 inch lettering. Signs were placed along the highway in succession at 2,640ft (.5 mi), 1,500ft (.28 mi.) and 1000ft (.18 mi.) before an off-ramp. The first sign read "Boat Inspection Ahead", second "Inspection Required for All Watercraft" (white reflective rectangle with black lettering 5' x 4'), third "Boat Inspection Next Right" and fourth "Boat Inspection" with a directional arrow pointing to the inspection station. The signs were designed and displayed in accordance with ODOT protocols.



## Oregon State Marine Board

### Aquatic Invasive Species Prevention Permit

Aquatic Invasives Species Prevention Permits can be purchased from retailers that sell Oregon hunting or fishing licenses, or through the internet. Oregon residents and all non-motorized watercraft permit fees are \$5 annually, while non-resident motorized watercraft permits cost \$20. Additionally, businesses that rent watercraft (liveries) or river guides using non-motorized watercraft are offered permits at a discounted price through the OSMB; price varies with the number of watercraft owned.

In 2011, OSMB began selling Tyvek® permits (Figure 3) through the mail and at the OSMB office in Salem (\$5 for one year or \$10 for two years). Additionally, boaters can purchase the Tyvek® permits from an approved retailer (e.g. Astoria Scuba and Kayak, Peak Sports, REI, etc).

### Education and Outreach

Outreach to the boating public remains a high priority for the program. Printed materials including brochures, posters, rack cards, and boat ramp signs (Figure 4) were distributed throughout Oregon. Partnerships with other natural resource agencies were established to ensure when staff (i.e. park rangers, river rangers, biologists, researchers, etc.) are interacting with the public they not only have an understanding of AIS issues, but they have educational materials to distribute. Additionally, to keep the public informed OSMB and ODFW wrote seven press releases, and 22 AIS Prevention Program articles appeared in 15 different Oregon newspapers.



## Permanent Signage

In a continuing partnership with Oregon Department of Transportation (ODOT), OSMB coordinates the installation of informational signs (Figure 5) on highways at border locations. These signs inform the public of the requirement to purchase an AIS Prevention Permit. A total of 20 locations were identified for installation statewide. During 2010, ten of these signs were installed; in 2011 four signs were installed and the remaining six were installed in 2012.



Figure 3. Example of Oregon State Marine Board Tyvek® Aquatic Invasive Species Prevention Permit.



Figures 4 and 5. Examples of Aquatic Invasive Species informational signs provided by the Oregon State Marine Board.

## Law Enforcement Activities

One of the main avenues to interact with boaters when they are recreating is through the contacts made by law enforcement (County Marine Patrol Deputies and the Oregon State Police Fish and Wildlife Troopers). When these officers speak to boaters out on the water or at boat access sites, they are able to enforce boating laws and act in an education and outreach capacity. They also answer questions and explain program details. The OSMB provides yearly trainings to these officers and program updates as they occur so they have the most up-to-date information to share with boaters.

During 2012, OSMB continued to encourage law enforcement officers to focus on education and issue warnings to boaters that didn't have an AIS Prevention Permit rather than give citations. In 2012, a total of 877 warnings were given along with 367 citations. Reports from officers in the field have indicated that while permit compliance has generally risen in 2012 as compared to 2011, it is believed that there are still a fair number of boaters that have not purchased the AIS Prevention Permit as can be attributed to the increase of an additional 403 enforcement actions above the 2011 numbers. Therefore, increased compliance checks will continue again during 2013. With the new requirement that all persons transporting watercraft must stop at inspection stations, law enforcement officers were contracted to perform enforcement days at inspection stations. These enforcement activities were focused at Oregon's southern entry points with several enforcement days held between June – August. To continue with enforcement activities during 2013, more inspection station compliance enforcement will be planned to make sure the threat of watercraft transporting AIS are intercepted and prevented from entering the state.

## **Aquatic Invasive Species Research Projects**

To further the goals of the AIS Program it's important to monitor Oregon waterbodies for the presence or absence of invasive species and also to support university led research to better understand the AIS dynamics within the environment. After consulting with the OISC and evaluating submitted proposed projects, the OSMB determined that financial support would be awarded to PSU for seven research projects. The following were approved; boat ramp monitoring for New Zealand mudsnails, literature review and analysis of coastal marine invasions in Oregon, containment strategies for Eurasian watermilfoil infestations in central Oregon lakes, creation of a volunteer Oregon lake watch program, continued zebra and quagga mussel monitoring in high risk Oregon waters, Tenmile Lake boat wash effectiveness-monitoring, and the Atlas of Oregon Lakes AIS interface.

Three other approved projects are to construct a boat wash station at Tenmile Lake in Coos County, continued diver surveys in Oregon coastal estuaries for the presence of marine invasive species, and continued implementation of the interactive on-line iMapInvasives reporting and monitoring database. All ten approved projects will occur during 2012 – 2014 and are funded by revenue generated from AIS Prevention Permit sales.

## **Program Financial Statement**

The funds collected from the sale of permits are deposited directly into the AIS Prevention Program Fund established in the State Treasury, which is separate and distinct from the General Fund. The OSMB administers this fund and distributes funds to ODFW and law enforcement agencies under intergovernmental agreements and contracts for services.

During the 2012 fiscal year (July 2011-June 2012), the revenue collected from permit sales was \$731,474; slight decrease from the 2011 fiscal year. In addition, with the early program “start-up” costs completed, more funding will be allocated to ODFW during the 2013/2015 biennium to increase their summer field inspection activity.

## **Funded Program Accomplishments**

- Oregon Department of Fish and Wildlife – One Invasive Species Coordinator (partial funding), one year-round senior technician, one year-round technician and seven seasonal AIS technicians
- Oregon State Marine Board – One AIS coordinator, one quarter -time accounting technician.

### ***Oregon Department of Fish and Wildlife Watercraft Inspection Program***

- Conducted 4,675 watercraft inspections from 37 different states and two provinces.
- Performed 18 watercraft decontaminations for quagga or zebra mussels.
- Equipped staff with field and office supplies.
- Purchased heavy-duty road side sign holders.

### ***Oregon State Marine Board Education and Outreach***

- Printed 8,300 AIS Tyvek® Tag permits for public sale.
- Funded the installation of six highway informational signs.

- Purchased multiple outreach displays showing PVC pipe infested with Lake Mead quagga mussels for boat inspection stations.
- Approved funding for ten special projects with multiple partner organizations.

### **Program changes for 2013**

The 2013 watercraft inspections will change slightly; ODFW will relocate two of the watercraft inspection teams (Hines and La Grande to Lakeview and Ontario) to better protect Oregon's southern and eastern borders. Additionally, ODFW plans to add one watercraft inspection team to Gold Beach and add extra inspectors at the Ashland inspection station.

### **Acknowledgements**

The Oregon Department of Fish and Wildlife would like to thank AIS technicians: Matthew Coleman, Sam Dodenhoff, Marla Hanlon-Abieta, Jenna Kirkbride, Bethany Parker, Eric Ressel, Jason Space and Brandon Wojcik. Also, thanks to Tim Bailey, Lanny Fujishin, Shannon Hurn, and Dan Vandyke of ODFW, for taking on the task of supervising our seasonal staff. Thanks to ODOT (Everett Carroll, Jerry Marmon, Leslie Elbon and Susan Westfeldt) for allowing an inspection station to be set up at the Ashland Port of Entry and the use of an electronic reader boards. Thanks to Oregon Travel Information Council for granting permission to use rest areas (Baker Valley and Midland) as inspection stations. Thanks to James and Pat Martin owners of Riley Store and Archery for allowing us to set up our inspection station in their parking lot.

The Oregon State Marine Board would like to thank the OISC and its members for their continued support and guidance for implementing this AIS Prevention Program.

### **Program Statutes and Rules**

The following are the OSMB program statutes and rules related to the AIS Prevention Program:

**830.560 – Launching boat with AIS prohibited**

**830.565 – Boat permit required**

**830.570 – Board to issue permit; fees**

**830.575 – Fees for permit**

**830.580 – Rules; contracting services**

**830.585 – AIS Prevention Fund**

**830.587 – Definitions**

**830.589 – Watercraft check stations**

**830.594 – Report of prevention efforts**

**830.998 – Penalty for failing to stop at an aquatic invasive species check station**

**830.999 – Penalty for transporting aquatic invasive species; exceptions; use of moneys; rules**

**250-010-0650 – AIS Prevention Permit – Rules**

**250-010-0660 – Watercraft Inspection Stations - Rule**

The following are the ODFW program rules related to the AIS Prevention Program:

**635-059-0000 – Purpose and General Information**

**635-059-0010 – AIS Reporting Information**

**635-059-0050 – Allowable Blind Material for boats**

## Appendix

Appendix 1. Summary of Level 1 Watercraft Inspection Trainings provided by the Oregon State Marine Board and Oregon Department of Fish and Wildlife, 2009 - 2012.

<u>Year</u>	<u>Number of Trainings</u>	<u>Number of Students</u>
2009	9	149
2010	11	233
2011	9	207
2012	7	185
Total	36	1,156

Appendix 2. Inspection stations and number of watercraft inspections, operated by the Oregon Department of Fish and Wildlife in 2012.

<u>Inspection station</u>	<u>Number of inspections</u>	<u>County</u>
Ashland	2,181	Jackson
Brookings	12	Curry
Baker Valley	1,298	Baker
Lakeview	3	Lake
Midland	507	Klamath
Riley	587	Harney
Other locations	87	Multiple
Total	4,675	

Appendix 3. Summary of watercraft inspected by state of origin and invasive mussel presence, Oregon Department of Fish and Wildlife, 2012.

<u>State or providence</u>	<u>Number of inspections</u>	<u>Zebra or quagga mussels present</u>
Alberta	1	none
Alaska	15	none
Alabama	2	zebra
Arkansas	1	both
Arizona	57	quagga
British Columbia	21	none
California	793	both
Colorado	31	both
Florida	16	none
Georgia	1	none
Hawaii	2	none
Iowa	2	both
Idaho	338	none
Illinois	2	both
Indiana	1	both
Louisiana	2	zebra
Michigan	2	both

Appendix 3 (continued)

Mississippi	1	zebra
Minnesota	3	both
Missouri	3	both
Montana	16	none
Nebraska	3	zebra
North Carolina	2	none
New Hampshire	2	none
New Jersey	1	none
New Mexico	8	quagga
Nevada	63	quagga
New York	3	both
Ohio	2	both
Oklahoma	2	zebra
Oregon	2,583	none
Pennsylvania	2	both
South Carolina	2	none
South Dakota	3	none
Tennessee	6	zebra
Texas	20	zebra
Utah	46	both
Washington	471	none
Wyoming	17	none
Unknown	129	unknown
Total	4,675	

Appendix 4. Summary of watercraft decontaminated for quagga or zebra mussels by the Oregon Department of Fish and Wildlife, 2012.

<u>Watercraft inspection station</u>	<u>Watercraft type and count</u>	<u>Watercraft origin</u>
Ashland	Motorboat (1)	Lake Havasu, AZ
Baker Valley	Jet skis (2)	Northern Nevada
Baker Valley	Kayak (1)	Lake Mead, NV
Baker Valley	Flexifloat <sup>®</sup> barge (1)	Lake Mead, NV
Baker Valley	Motorboat (1)	Lake Michigan, MI
Baker Valley	Motorboat (1)	Mississippi River, IA
Midland	Motorboat (1)	Lake of the Ozarks, MO
Riley	Motorboat (1)	Lake Havasu, AZ
Salem Headquarters	Flexifloat <sup>®</sup> barges (8)	Lake Mead, NV