VOLUNTARY GUIDELINES TO PREVENT THE INTRODUCTION AND SPREAD OF AQUATIC INVASIVE SPECIES: RECREATIONAL ACTIVITIES

Aquatic Nuisance Species Task Force
November 2013

In July 2011, the Aquatic Nuisance Species Task Force (ANSTF) re-established the Recreational Guidelines Committee (Committee) composed of 55 Federal and State agency, non-profit and industry representatives. The Committee's mission is to update the 2000 ANSTF *Recommended Voluntary Guidelines for Preventing the Spread of Aquatic Nuisance Species Associated with Recreational Activities* (Federal Register/ Vol. 65, No. 76/ Thursday, April 13, 2000/ Notices, Pg. 19953). Those guidelines were revised taking into account new aquatic invasive species (AIS), and new recreational activities and equipment. Guidelines were revised for six recreational activities: anglers, motor boaters, non-motorized boaters, scuba divers and snorkelers, seaplane pilots, and waterfowl hunters.

The purpose of these guidelines is to:

- Provide a consistent, practical, and effective document to inform outreach efforts geared toward public recreationalists to prevent the spread of AIS,
- Take into account the specific pathways, vectors, and life histories of *all* AIS, including fish, aquatic plants, invertebrates, and pathogens, and
- Promote voluntary actions to support the national *Stop Aquatic Hitchhikers!*™ campaign, as well as statewide efforts such as *Clean Boats, Clean Waters*.

Stop Aquatic Hitchhikers!™ is a national education campaign that helps recreational users to become part of the solution to stop the spread of AIS. Launched in 2002, the campaign was created under the auspices of the ANSTF. Joining the campaign is free and easy. Visit www.protectyourwaters.net and then click on "Become a Partner". As of 2013, over 1,100 entities including agencies (federal, state, tribal, county), universities, colleges, schools, businesses, industries, non-profit organizations, and clubs have joined helping to reach millions of recreational users.

Recreational user exposure to the campaign's messages is key. Research shows that exposure to the campaign combined with audience-specific recreational guidelines can not only raise awareness, but also motivate positive actions that can prevent AIS spread. Therefore, any entity wishing to enhance AIS prevention in their region are strongly encouraged to capitalize on the campaign's visibility by using the campaign's logo, wordmark and tagline at every opportunity in communication and education media.

Guidelines for each recreational activity are formatted so that they can be "cut and pasted" from this document for inclusion in communication or education media. Common to all activities is basic communication message, "Clean, Drain, Dry". Uses of this message include billboards, stickers, newsletter sidebars, and small sized media, which serve as communication prompts. Guidelines on the right side of each recreational activity are intended for use in education media such as brochures, fact sheets in their entirety when possible. When not possible, the guidelines can be scaled down to fit needs of the media and intended audience.

These guidelines are also meant to compliment local, state or tribal laws concerning possession or transport of AIS. They do not override and should not be confused with AIS decontamination and quarantine laws that are in effect in various locations across the nation.

Approach to Recreational Equipment Inspection and Decontamination:
A key concept for recreational equipment inspection and decontamination is that the effectiveness of the treatment depends on the activity and the type of AIS.

Synopsis of Recommended Actions:

- For day users, inspect, clean off, drain, rinse (with low pressure, hot water when possible) and dry for ***five days*** or more or wipe with a towel.
- For recreational equipment left in zebra mussel infested waters for more than a day, do all of the above, except use high pressure, hot water treatment for exterior surfaces, and low pressure hot water treatment for interior components when possible.

Bottom line approach: Inspection, rinsing, flushing or high pressure washing ***removes*** them, while hot water ***kills*** AIS. In the absence of hot water or high pressure, rinsing with tap water and completely drying will help prevent spread of AIS.

Inspection and Removal:
If recreational equipment has been left in the water for less than a day, key actions to prevent the spread of all AIS are:

- ***Inspect*** and ***clean off*** any visible aquatic plants, animals, and mud from all equipment *before leaving water access.*
- ***Drain*** motor, bilge, livewell, and other water containing devices *before leaving water access*.
- ***Dispose*** of unwanted bait, worms, and fish parts in the trash. When keeping live bait, drain bait container and replace with spring or dechlorinated tap water.
- ***Never*** dump live fish or other organisms from one water body into another.
- ***Dry*** everything for ***five days*** or more or ***wipe*** with a towel *before reuse*.

Those key actions will clean off any visible large-bodied organisms attached to or in watercraft or recreational equipment. Draining can also remove small and nearly invisible organisms such as zebra mussel larvae (veligers) potentially entrained in water containing devices.

However, additional precautions are needed to remove small bodied organisms from other parts of the equipment are needed:

- ***Spray/rinse*** recreational equipment with high pressure hot water to clean off mud and kill aquatic invasive species when possible,
- ***Flush*** motor according to owner's manual, **AND/OR**
- ***Dry*** everything for ***five days*** or more OR ***wipe*** with a towel *before reuse.*

Notes: It is recommended that even a simple hull rinsing with a garden hose and running water through the live well system is an effective way to clean off species not visible to the naked eye. Drying can also be effective but keep in mind that young mussels can survive in standing water for 24 days at 50^{o}F, 8.5 days at 59^{o}F, or 4.5 days at 86^{o}F and a thorough decontamination is recommended.

Decontamination:

If recreational equipment has been left in the water for more than a day, the following decontamination methods are recommended in accordance with manufacturers' recommendations whenever possible:

- ***Spray/rinse*** hull and other external areas or recreational equipment with high pressure (2,500 psi) hot water (140^{o}F for 10 sec).
- ***Rinse/flush*** motors with hot water (120^{o}F) for 2 minutes.
- ***Rinse/flush*** interior compartments with hot water (120^{o}F)
- ***Dry*** everything for ***five days*** or more **OR *wipe*** with a towel *before reuse.*

Notes: Young invasive zebra mussel settlers are difficult to see with the unaided eye, but on smooth surfaces they feel like sandpaper. Research indicates that 140^{o}F water will kill these settlers as well as Eurasian watermilfoil, New Zealand mudsnails, and spiny waterfleas. However, residential hot water heaters are generally set at 120^{o}F and temperatures at the nozzle will be lower because of the water's heat loss to pipes, hoses, ambient temperature, etc. Likewise, commercial car washes typically use water pressure of no more than 1,500 psi and rarely have water hotter than 100^{o} F. Therefore, 140^{o}F water is likely unobtainable, at least through easily-accessible means. Individuals can maximize their decontamination efficacy by using water that's as hot as possible. Skin contact should be avoided when using water above 120^{o}F to avoid irritation or burns.

Chemical Treatments:

The Committee does not recommend wide use of chemical prophylactics or disinfectants for treating watercraft and recreational equipment. Reasons are that chemicals: 1) may damage equipment or components; 2) pose risks for environmental damage and human health, if not properly used; and 3) have varying levels of effectiveness. Therefore, promotion of chemical treatment should be limited to situations in which guidelines can only be partially conducted or are not practical (such as when drying times are limited and known AIS are present). If a chemical treatment is promoted, it should be the most effective *and* the most environmentally benign (e.g., a salt-water solution for certain AIS).

If recreational equipment is fouled, certified or professional decontamination services are highly recommended and may be required based on local, state, or tribal regulations.

Environmental Stewardship and Compliance:
To promote environmental stewardship and compliance with regulations, guidelines for each pathway can include the following statement:

Know the rules! Specimens are needed to confirm sightings, but some jurisdictions prohibit possession and transport of invasive aquatic plants and animals. Before collecting specimens, contact your local natural resource management agency for instructions. Unauthorized introduction of plants, fish, or invertebrates into the wild is illegal in most states. Protect your property and our waters.

Report new sightings. Note exact location; take a photo; if possible, place specimens in a sealed plastic bag; and call federal state, tribal or Sea Grant office or the National ANS Hotline at 1-877-**STOP-ANS**.* Reports can also be submitted at http://stop-ans.org/

* As an alternative, state-specific contact information is encouraged.

Recreational Activity:

Anglers

Stop Aquatic Hitchhikers!™

Clean ***Inspect*** and ***clean off*** plants, animals, and mud from gear and equipment including waders, footwear, ropes, anchors, bait traps, dip nets, downrigger cables, fishing lines, and field gear *before leaving water access*.

Scrub off any visible material on footwear with a stiff brush.

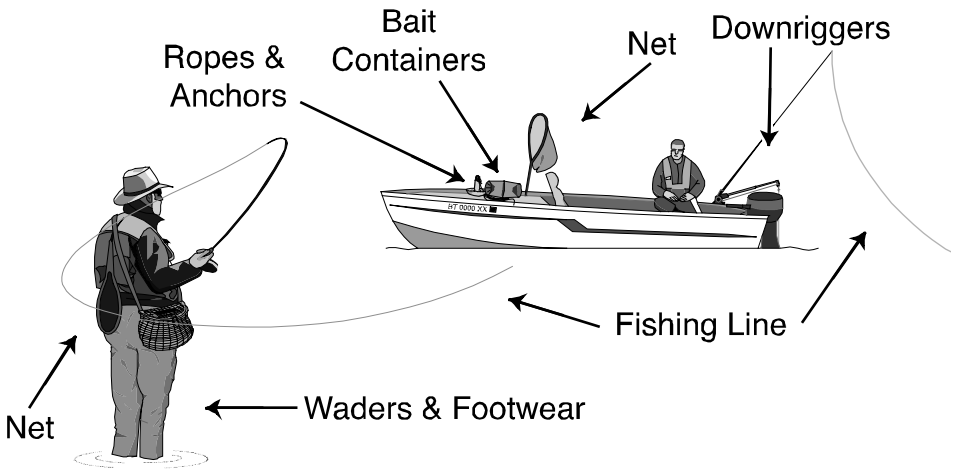
Drain water from watercraft, motor, bilge, bladder tanks, livewell and portable bait containers *before leaving water access. Replace* with spring or dechlorinated tap water when keeping live bait *before leaving water access*. Don't add other live fish to bait container.

Dispose of unwanted bait, fish parts, and packing materials, in the trash; do not dump them in the water or on land.

Dry everything ***five days*** or more, unless otherwise required by local or state laws, when moving between waters to kill small species not easily seen **OR *wipe*** with a towel *before reuse.*

Other key actions:

- Use non-felt soled boots to further reduce the risk of spreading AIS.
- Fish caught for eating or taxidermy should be cleaned at designated fish cleaning stations or placed on ice.
- Never dump live fish or other organisms from one water body into another.


Ropes &
Anchors
Bait
Containers
Net
Downriggers
Fishing Line
Net
Waders & Footwear

Motor Boaters

Stop Aquatic Hitchhikers!™

Clean

Inspect and ***clean off*** visible aquatic plants, animals, and mud from watercraft, motor, trailer, and equipment *before leaving water access*.

Scrub hull using a stiff brush.

Rinse watercraft, trailer, and equipment with high pressure hot water when possible.

Flush motor according to owner's manual.

Jet Boats and Personal Watercraft (PWCs) users should also:
Inspect and ***clean off*** visible aquatic plants, animals, and mud from hull, trailer, intake grate and steering nozzle, etc.

Run engine 5-10 seconds to blow out excess water and vegetation from internal drive *before leaving water access*.

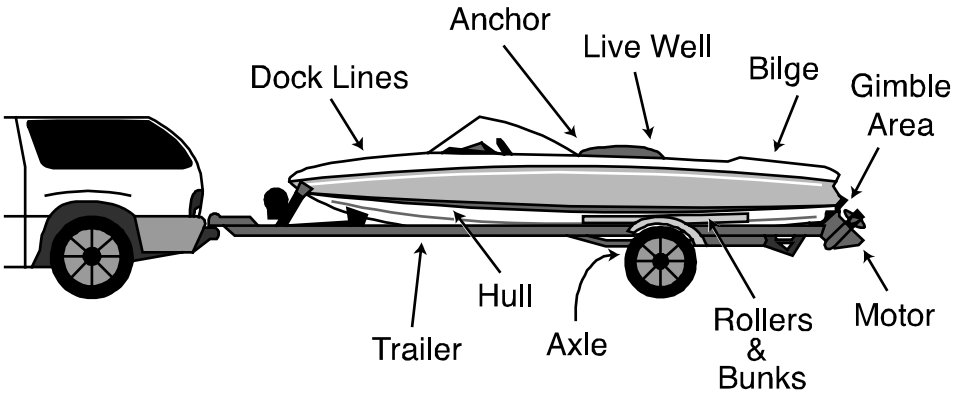
Sailors should also:
Inspect and ***clean off*** visible aquatic plants, animals, and mud from the centerboard, bilge board wells, rudderpost, trailer and other equipment *before leaving water access*.

Drain

water from watercraft, motor, bilge, bladder tanks, livewell, and portable bait containers *before leaving water access*.

Dry

everything for ***five days*** or more, unless otherwise required by local or state laws, when moving between waters to kill small species not easily seen OR wipe with a towel *before reuse.*


Anchor
Live Well
Dock Lines
Bilge
Gimble
Area
Hull
Trailer
Axle
Rollers
&
Bunks
Motor

Non-Motorized Boaters

Stop Aquatic Hitchhikers!™

For canoes, boards, rafts, kayaks, rowboats, paddleboats, inflatables, sculls, and other non-motorized recreational watercraft:

Clean

Inspect and ***clean off*** any visible aquatic plants, animals, and mud from watercraft, gear, paddles, floats, ropes, anchors, dip nets, and trailer *before leaving water access*.

Scrub hull using a stiff brush.

Rinse watercraft, trailer and equipment with high pressure hot water, when possible.

Drain

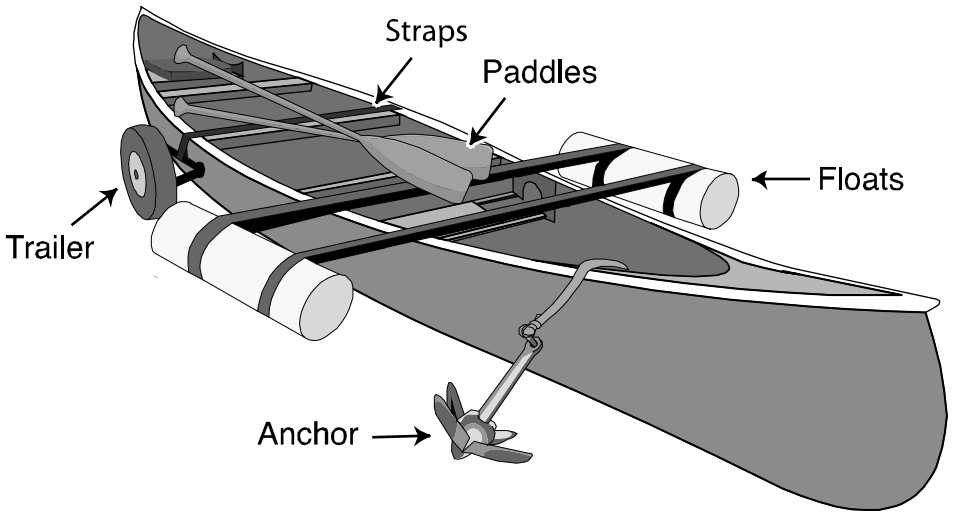
water from watercraft, sponges, bailers, and water containing devices *before leaving water access*.

Dry

everything ***five days*** or more, unless otherwise required by local or state laws, when moving between waters to kill small species not easily seen OR wipe with a towel *before reuse.*

Completely dry inflatables and other recreational watercraft *before storing*.

Wear quick-dry footwear or bring a second pair of footwear with you when portaging between waterbodies.



Scuba Divers and Snorkelers

Stop Aquatic Hitchhikers!™

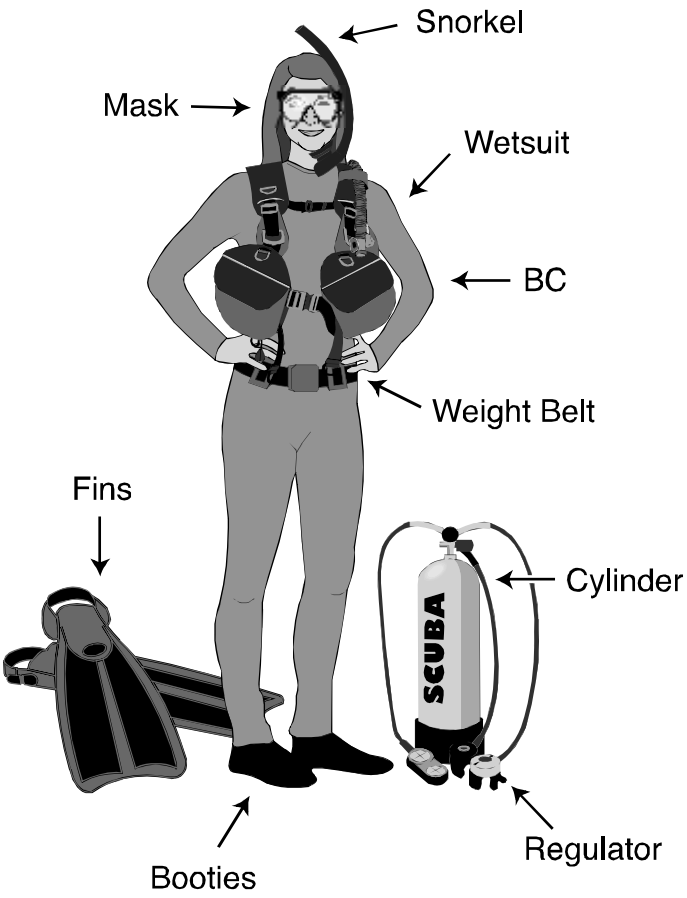
Clean ***Inspect*** and ***clean off*** visible plants, animals and mud from wetsuit, dry suit, mask, snorkel, fins, buoyancy compensator (BC), regulator, cylinder, weight belt, watercraft, motor, and trailer *before leaving water access*.

Soak gear used in saltwater dives in 5% dishwashing liquid solution (1 cup/gallon)[1], or gear used in freshwater dives in 3.5% salt solution, (½ cup/gallon)[2] for 30 minutes.

Rinse inside and outside of gear with hot water, when possible.

Drain water from BC, regulator, cylinder boot, watercraft, motor, and any water containing devices *before leaving water access.*

Dry everything ***five days*** or more, unless otherwise required by local or state laws, when moving between waters to kill small species not easily seen **OR *wipe*** with a towel *before reuse.*


Snorkel
Mask
Wetsuit
BC
Weight Belt
Fins
Cylinder
SCUBA
Regulator
Booties

Seaplane Operators

Stop Aquatic Hitchhikers!™

Clean

Inspect and ***clean off*** any visible aquatic plants, animals, and mud from pontoons, cross members, steps, transom, rudders, chine, wheel wells, mooring ropes, wires, and cables.

Scrub off any floats with a stiff brush.

Rinse landing gear with high pressure hot water, when possible.

Land plane in marine waters if moving between known infested freshwater as this can be an effective method of killing freshwater AIS.

At water take-off:

- Avoid taxiing through aquatic plants.
- Raise and lower water rudders several times to clear off plants.

After water take-off:

- Raise and lower water rudders several times to dislodge aquatic plant fragments while flying over the waters you left or over land.
- If aquatic plants remain visible on aircraft, return to same water body and clean them off.

Drain

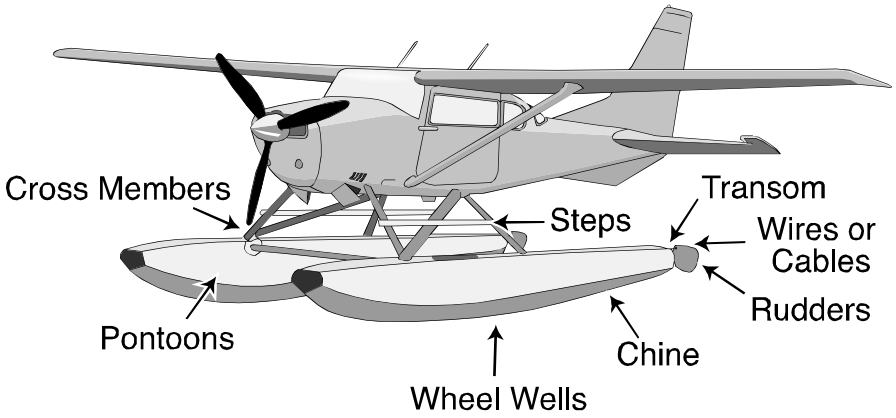
Pump water from floats *before take-off.*

Dry

everything ***five days*** or more, unless otherwise required by local or state laws, when moving between waters to kill small species not easily seen **OR *wipe*** with a towel *before reuse.*

Runway land (if so equipped) or haul out and clean aircraft previously used in known invasive species infested waters as soon as possible after arrival at the destination.

Store aircraft on land when possible. Hot summer temperatures and flights during dry weather will help kill aquatic invasive plants and animals that may be on floats.


Cross Members
Steps
Transom
Wires or
Cables
Rudders
Pontoons
Chine
Wheel Wells

Waterfowl Hunters

Stop Aquatic Hitchhikers!™

Clean ***Inspect*** *and* ***clean off*** visible plants, animals and mud from waders, hip boots, watercraft, motor, trailer, ATV's, push poles, decoys, decoy lines and anchors *before leaving area*.

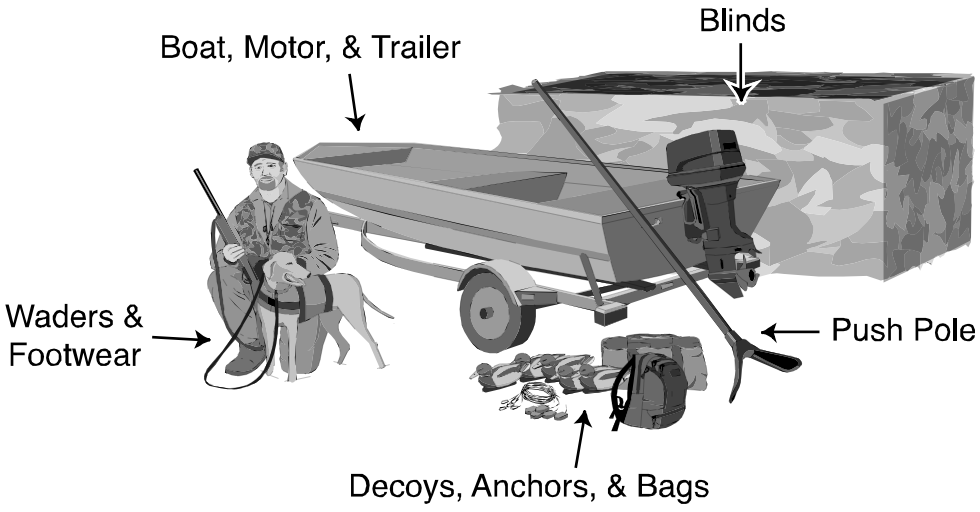
Brush hunting dogs and rinse kennels with tap water.

Drain water from watercraft, motor, bilge and other water containing devices *before leaving water access.*

Dry everything ***five days*** or more, unless otherwise required by local or state laws, **OR** ***wipe*** with a towel *before reuse.*

Other key actions:

- Use non-felt soled boots to further reduce the risk of spreading AIS.
- Cut emergent vegetation above waterline for blinds or camouflage in accordance with regulations.
- Use elliptical and bulb-shaped anchors to help avoid snagging aquatic plants.



[1]http://www.lakegeorgeassociation.org/what-we-do/Invasive-Species/documents/cleanwetsuitscleanwaterlowrescard.pdf

[2]http://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2012.pdf

Appendix A

Committee Members

NAME	**AGENCY**
Lad Aikens	REEF
James Ballard	Gulf States Marine Fisheries Commission
Glenn Plumb	National Park Service
Amy Benson	U.S. Geological Survey, Southeast Regional Science Center
Rick Boatner	Oregon Department of Fish and Wildlife
Kim Bogenschutz	Association of Fish and Wildlife Agencies& IA DNR
StasBurgiel	National Invasive Species Council
Pat Campfield	Atlantic States Marine Fisheries Commission
Stephanie Carman	Bureau of Land Management
Sam Chan	Oregon Sea Grant Program
Pat Charlebois	Illinois-Indiana Sea Grant Program
Noreen Clough	BASS
Pat Conzemius	Wildlife Forever
Tammy Davis	Alaska Department of Fish and Game
John DePersenaire	Recreational Fishing Alliance
David Dickerson	Personal Watercraft Industry Association
Joe DiVittorio	Bureau of Reclamation
Teal Edelen	National Fish and Wildlife Foundation
Alyssa Hausman	American Sportfishing Association
Kim Holzer	U.S. Fish and Wildlife Service, Branch Aquatic Invasive Species
Fred Iantorno	Blackhawk Bassmasters
Doug Jensen	University of Minnesota Sea Grant Program and RAC Co-Chair
Doug Keller	Indiana Department of Natural Resources
Verne Lehmberg	Federation of Fly Fishers
Paul Lepisto	Izaak Walton League of America
Jed Livingstone	National Association of Underwater Instructors
Madelyn Martinez	U.S. Army Corps of Engineers
Steve McCaughey	Seaplane Pilots Association
Karen McDowell	San Francisco Estuary Partnership
Jim McManus	Seaplane Pilots Association
Marshall Meyers	Pet Industry Joint Advisory Council
Meg Modley	Lake Champlain Basin Program
Pat Neu	National Professional Anglers Association
Laura Norcutt	U.S. Fish and Wildlife Service, Branch Aquatic Invasive

	Species, RAC Co-Chair
Walter Opuszynski	North Forest Canoe Trail
Susan Pasko	National Oceanic and Atmospheric Administration
George Peterson	Monterey Bay Aquarium
Jay Rendall	Minnesota Department of Natural Resources
Mark Riechers	Mercury Marine
Gordon Robertson	American Sportfishing Association
Eileen Ryce	Montana Fish, Wildlife and Parks
Patty Seery	Divers Alert Network
Susan Shingledecker	Boat U.S. Foundation
Brad Smith	Professional Association of Diving Instructors
Cindy Squires	National Marine Manufacturers Association
Arisa Teasley	Recreational Boating & Fishing Foundation
Keith Weaver	Georgia Wildlife Resources Division, Fisheries Section
Sarah Whitney	Pennsylvania Sea Grant
Bob Wiltshire	Invasive Species Action Network
John Wullschleger	National Park Service
Libby Yranski	American Sportfishing Association
Sarah Zack	Illinois-Indiana Sea Grant
Joe Zarzynski	Bateaux Below, Inc.