

APPENDIX G

Public Review & Comment on the Utah Aquatic Invasive Species Management Plan

The Utah Aquatic Invasive Species Management Plan was initially launched for statewide public review as information at the Utah Wildlife Board's five Regional Advisory Council's meetings and at a Utah Wildlife Board meeting between May 27 and June 19, 2008. Review of the plan for final action was again brought before the public at the five Regional Advisory Councils and the Wildlife Board between August 12 and August 28, 2008. The plan was also available on the Internet for public review at <http://wildlife.utah.gov/invasivespecies/aisplan/>, which is located on Utah Division of Wildlife Resources' web site.

Additionally, the plan was presented to the Utah Governor's Office of Planning and Budget Resource Development Coordination Committee in their October 10, 2008 hearing. Comments received from statewide federal, state, and local government participants across a 30 day window via that process all recognized need for the plan and were all supportive for plan implementation.

The public review process involving the Utah Wildlife Board's five Regional Advisory Council's spanned a period of more than 90 days and included 10 public hearings before Utah's five Regional Advisory Councils, and two public hearings before the Utah Wildlife Board. Ultimately, the Utah Wildlife Board unanimously approved the plan on August 28, 2007. Public comments received on the plan in that process are as follow:

Internet Comments

No comments on the plan were received directly from the aforementioned website, which allowed the public to respond directly to the Utah Division of Wildlife Resources via an email link titled DWRComment@utah.gov.

Telephone Comments

Multiple telephone calls inquiring about the overall *Dreissena* mussel threat to Utah's waters, and requests for information about how to properly decontaminate a watercraft exposed to AIS were received by Utah Division of Wildlife Resources' offices during the public comment period. None of the calls originated due to the public review of the plan, and a similar rate of calls had occurred prior to the public comment period due to an aggressive, ongoing statewide "CLEAN, DRAIN and DRY" media campaign targeted at boaters.

Written Comments

No written comments were received by Utah Division of Wildlife Resources as a result of the public review of the plan.

Southern Regional Advisory Council (RAC)

The meeting agenda included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

May 27, 2008 Cedar City, UT: Chair Jake Albrecht called the meeting to order; there were 293 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Douglas Messerly, Utah Division of Wildlife Resources Regional Supervisor, briefed the meeting attendees saying, “Things that are happening within the Division, those of you that are fishing southern region waters may have run into some of our technicians that we’ve hired to assist in the effort to interdict boats with Quagga mussels, which is an agenda item tonight, an invasive mussel that’s found in Nevada. Currently, we’re trying to keep them from establishing in Utah. We’re trying to educate the public and ask for your help in keeping this invasive species out of our state.”

Larry Dalton, Utah Division of Wildlife Resources’ AIS Coordinator, presented the Utah Aquatic Invasive Species Management Plan as an informational item using PowerPoint. The plan’s Executive Summary was provided and the RAC was advised that the plan would be briefly presented again in August, seeking approval. Additionally, Utah Division of Wildlife Resources Law Enforcement Chief, Mike Fowlks, followed Larry Dalton, and presented Rule R657-60, Aquatic Invasive Species Interdiction as a PowerPoint for approval action (it passed unanimously). Questions from the RAC and the public, RAC discussions, and answers from both presenters relate directly to the AIS management plan, so both are included in this summary.

Questions From RAC:

Jake Albrecht (Q): In a water that freezes over for the wintertime, does that kill that particular type of mussel?

Larry Dalton (A): No. Great example here is the Great Lakes. If you’ve been there you’ve had opportunity to fish through the ice. They freeze up real good. You can drive trucks out there. These mussels are alive and well in the Great Lakes. The mussel has to be frozen, and if he’s under the ice he’s in water that’s not frozen, or in the mud, on rocks whatever. So a frozen lake, unless it freezes right to the bottom and freezes the bottom hard is the only way they would die. And that would be a fishless lake every spring.

Jake Albrecht (Q): Okay, second part, is it going to be mandatory at our port of entries to pull boats over?

Larry Dalton (A): We are, Captain Fowlks will address that issue but I will speak to that very briefly. We are currently working with the Department of Transportation to use the ports of entry to do checks there. And yes we could, could and will under the authority of law use the ports of entry in the State of Utah.

Sam Carpenter (Q): Did I hear you correctly that Lake Powell is infected with these?

Larry Dalton (A): No, Lake Powell, uh, a year ago in August we did detect the veliger for this critter in Lake Powell. We took samples and sent them to three labs. One lab gave us a positive hit, both visually and with DNA analysis, which is called PCR. Two other labs could not find it with visual inspection under a microscope. And so if you can't find it visually then you don't run the DNA test. So what we have is a situation where we're on very high alert at Lake Powell but we don't, at least we're not saying at this point in time that Lake Powell is an infested water. It won't be listed in our new law as infested. But we're taking samples on a real regular basis down there, and if it does show up then we would take emergency action with the Wildlife Board to list Lake Powell. But today we believe Lake Powell is not infested, but we're on high alert there. That's it. I've told you the facts; we've seen them, they just may not have taken. Or maybe they did and we just haven't found more of them yet. I'm not sure. We're spending a lot of energy down there checking that out.

Jack Hill (Q): You indicated scalding the mussels at 140-degree temperature.

Larry Dalton (A): Yes.

Jack Hill (Q): Is there a chemical that can be used to combat them?

Larry Dalton (A): There actually are a couple of chemicals around. They take quite a bit of contact time. Potassium chloride, the same salt you use in your water softener, at 100 parts per million will kill them but it take twelve hours of contact time. So if you happen to have one of these ski boats with the big ballast in it that never drains, you can inject that into that ballast and of course it sits around at your house for twelve hours or wherever, that will kill them. There is also a chemical called, its manufactured name is Rydlyme. If you spray it on them in about, in a few minutes actually it dissolves the shell off of a ¼ inch sized one and that kills it. So there are some other things out there. Rydlyme is, boaters are always concerned about what it is he's pumping inside of his boat and spraying around on it. And the salt, it doesn't hurt other aquatic species. You can kill at 100 parts per million and safe drinking is 250 parts per million.

Jake Hill (Q): I was thinking something like chlorine bleach.

Larry Dalton (A): Chlorine also kills. I apologize that I forgot the contact time on it but it's fairly long. Chlorine is quite caustic so, you can put it on real strong but real strong also is damaging your equipment. So chlorine is used at times but it's not the best tool. There's, the hot water is the very best tool because it pretty much represents a no impact to your equipment and kills the critter on contact.

Rex Stanworth (Q): Mike, these decontamination centers, obviously I guess your just in the preliminary, how many of those will there be and will there be any at the lake side? In other words like at Strawberry, or Bear Lake or some of the premier areas?

Michael Fowlks (A): Larry could probably answer this better than I. We have two decontamination centers set up at Lake Powell now that are permanent. The Division has purchased portable decontamination centers as well. And I can't tell you how many we've got; Larry can answer that.

Larry Dalton (A): Thanks Mike. As Mike said, Lake Powell, the National Park Service has two on Lake Powell, one at Bull Frog, one at Wahweep. The Division of Wildlife Resources has 26 decontamination units. They are trailer mounted and they are scattered all over the state of Utah. And pretty much they would be within an hour's distance of most boating waters to move one over or to send a boater in that direction. We'll learn

more about that as we get through life a little bit here of how effective we can be. And the decontamination takes about half an hour.

Rex Stanworth (Q): And is there a charge, will there be a charge for the decontamination?

Larry Dalton (A): At Lake Powell they're charging about \$50.00 an hour on their two units. Airamark, the concessionaire is manning those units. The Division of Wildlife units, we will not charge a fee this year. That's not saying we won't next year. After we assess what it means in terms of workload, timing and the like, we may be charging a fee. In fact I think it will be pretty likely. At Lake Powell they have 100,000 launches a year. They decontaminated 500 boats last year. You play the math on that, that's one half of one percent of the boats. And that's kind of what I'm expecting to see on an average across the state of Utah. We'll see what works out.

Rex Stanworth (Q): I guess one of the questions I've got is if somebody goes, let's say goes to Strawberry and they're greeted at the dock, or at the area where they're going to launch their boat, and somebody walks up to them and says where have you used your boat and they say, well yeah we've used it there. Have you had your boat decontaminated? No. Is there any fear that those mussels could be moved from that launch area out into the water via either shoes, or tires, or whatever it might be coming through that lot? Is there any, I mean are you thinking of that being a problem at all?

Larry Dalton (A): Hypothetically, sure, any piece of equipment that is exposed to the water in an infested lake if brought to another water before it has dried or been decontaminated with scalding water has the potential to inoculate a new water. So hypothetically, yes. In reality it hasn't been documented to see movement occur in that way. Movement is pretty much occurring on or in your boat with either veligers, or juveniles, or adults attached to that equipment.

Rex Stanworth (Q): I guess my point was going to be that at least in most of those waters you've got areas where you have to check in, pay your fee to get in. Is that going to be an appropriate to ask this question rather than at the launch site?

Michael Fowlks (A): We're focusing on the highest threat. We're focusing on stopping that boat from launching before it gets in the water, that's the highest threat. I think Larry's right, I think there is some hypothetical chance you could get some contamination if they haven't already hit the water but certainly the biggest threat is when they put the boat in the water, or the trailer.

Rex Stanworth (Q): Now this form that you're going to have these boaters fill out, if I've got a boat but I've never left the state of Utah, if I put this in my window, the same form each time, is that going to be acceptable or is it going to have a new date on it every single time I go into the water?

Michael Fowlks (A): We'd like you to re-date it. And all you've got to do is say that you haven't been in infested waters and just re-date it when you launch.

Rex Stanworth (Q): Okay. My last question is the penalty. Just looking at this, it says there's a penalty under such and such. What is the penalty if somebody is caught putting a contaminated boat in the water?

Michael Fowlks (A): The penalty for a violation of the rule, the proposed rule, would be a Class C misdemeanor. A violation of the statute would be a Class B misdemeanor. And maybe Marty Bushman, our attorney would like to expound on that.

Marty Bushman, Assistant Attorney General assigned to Utah Division of Wildlife Resources (A): There will be a two-tier criminal violation system. If you are transporting

these mussels in any type of conveyance in the state, having have been in an infested water without decontamination, this is what the Code says. But the legislature passed this last year, is if you are doing it knowingly and intentional, in other words you know you got mussels, you may have them encrusted on the prop or the hull of the boat and you're moving them across the state and you have not disinfected that's a Class A misdemeanor. If on the other hand you've been in an infested water but you don't have necessarily direct knowledge that you've got them on board that is considered a Class, actually it's an infraction, which means it's equivalent of a Class C misdemeanor except you can't go to jail for an infraction. So the idea was is you're going to be held strictly liable if you've been in an infested water that you may have those on board but it will be an infraction unless you know you've got them, because you've visually seen them, and you're moving them across the state, then it ups it up to a Class A misdemeanor

Rex Stanworth (Q): Thank you.

Michael Fowlks (A): I should add that if you voluntarily comply with decontamination there is no penalty.

Jake Albrecht (Q): Say you get them into some type of waterway that moves water to a town, or a city, some canal, who pays for the cost?

Larry Dalton (A): You do. The facility controller, a water conservancy district, would suffer the cost at the front but you all know what happens when their maintenance costs go up; it will be passed on to the user. So what I said at the start, "you do", is pretty much the answer.

Jake Albrecht (Q): Is that somewhere in here (referring to the plan and/or the Rule)?

Larry Dalton (A): That's a reality of life. That's not in any rules or laws.

Questions From Public:

None.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Jack Hill (Comment): I sure hope there's a lot of help from other state agencies.

Larry Dalton (A): We are seeking assistance from other state and federal agencies, and they are indicating an interest in helping.

Jack Hill (Comment): Coincidentally, two weeks ago I was in Las Vegas and there was an article that appeared in the Las Vegas Review Journal about the infestation of these mussels in the National Fish and Wildlife Services hatchery at Lake Mojave. And so it got me thinking about the infestation and I was driving back to Utah. And that's, it was just a run of the mill weekend and I counted, I don't drive very fast, about 65 miles an hour, so a lot of those great big trucks pulling those great big boats went by me and I counted 11. And I thought, holly Toledo. If there are 11 on a casual weekend I wonder what it's going to be like on the 4th of July or Labor Day and they start stopping those boats at the port of entry south of St. George. It would seem like to me that the DWR's going to have a hell of a problem relative to decontaminating those boats that have been on Lake Mojave or Lake Mead.

The AIS plan was an information topic, so no action was taken. But, Rule R657-60, Aquatic Invasive Species Interdiction was an action item; a motion was passed that it be recommended to the Wildlife Board as presented.

August 12, 2008 Filmore, UT: Douglass Messerly, Utah Division of Wildlife Resources Southern Region Supervisor and Southern RAC Secretary, called the meeting to order; there were 138 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Crystal Stock, Utah Division of Wildlife Resources' Southern Region AIS Biologist, presented the Utah Aquatic Invasive Species Management Plan as an action item using a brief PowerPoint presentation. The RAC was reminded that an in depth informational presentation of the draft plan had earlier been made, and that the plan was available for public review and comment at www.wildlife.utah.gov/invasivespecies/aisplan. Questions from the RAC and the public, RAC discussions, and answers from the presenter are included in this summary.

Questions From RAC:

Jack Hill (Q): You indicated that the water at a car wash is not hot enough. But if it's a pressurized washing process wouldn't that adequately serve to remove the mussel and or mud?

Crystal Stock (A): It would on the outside of your boat. The issue is that water gets up in your engines, which we can successfully clean with attachments that we have. So even before you leave the water it's going to suck up a little bit of extra water and it can live there. It's actually the best environment for them because they're not exposed to the sun or the heat, they don't dry out. Also, in your live wells and bilges we have special attachments for our machines also to actually flush those out and that's why we need the hot water.

Jack Hill (Q): Okay

Questions From Public:

John Krosher (Q): I've heard rumors that there's possibilities this is taking place in Lake Powell. Can you dispel those rumors or?

Crystal Stock (A): Lake Powell has been being tested for mussels. We do this thing called PCR analysis. And basically what happens is a net gets pulled through the water to capture little tiny microscopic things; plankton, which could include quagga mussel veligers. They did have one positive sample in August of '07 come up for quagga mussels, but there has not been another positive sample or a find of an adult population of mussels anywhere in Powell. We test every two weeks; so, right now we're saying they're not infected. So it's been almost a year now and we haven't found any other evidence anywhere. So what there is to say about that is that it's very possible that there was a mussel in Powell, maybe on a boat that they launched for the day and it spawned in the water and we happened to pick it up, we're hoping. But the most recent news is that Lake Granby in Colorado has been found with the veligers, which is a very young

mussel, microscopic, they are a free-floating stage. If they end up getting an adult breeding population of mussels, which we have not seen in Lake Powell yet, it does feed into the Colorado River and it's possible that Lake Powell could get it. But we're still waiting to find out if we have any actual live adult mussels in Lake Granby in Colorado. Does that answer your question?

Comments From Public:

None

Comments, Discussion & Motions by RAC:

Steve Dalton (Motion): He made a motion to accept the AIS Management Plan as presented, seconded by Dell LeFevre; passed unanimously!

Southeastern Regional Advisory Council (RAC)

The meeting agenda included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

May 28, 2008 Green River, UT: Vice Chair Terry Sanslow called the meeting to order; there were approximately 21 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Larry Dalton, Utah Division of Wildlife Resources' AIS Coordinator, presented the Utah Aquatic Invasive Species Management Plan as an informational item using PowerPoint. The plan's Executive Summary was provided and the RAC was advised that the plan would be briefly presented again in August, seeking approval. Additionally, Utah Division of Wildlife Resources Law Enforcement Chief, Mike Fowlks, followed Larry Dalton, and presented Rule R657-60, Aquatic Invasive Species Interdiction as a PowerPoint for approval action (it passed unanimously). Questions from the RAC and the public, RAC discussions, and answers from both presenters relate directly to the AIS management plan, so both are included in this summary.

Questions From RAC:

James Gilson (Q): He advanced a hypothetical situation about boating at Lake Powell, followed by a launch at Scofield Reservoir; how would that be treated?

Larry Dalton (A): A boat that had been at Lake Powell would not be subject to decontamination, since Lake Powell has not been declared a contaminated water. If Lake Powell were declared contaminated at a future time, then decontamination would have to occur before launching at Scofield Reservoir.

Terry Sanslow (Q): What are examples of the term, "conveyance" in the Rule?

John Pratt (A): The term could include waders, float tube, paddle boats, equipment, tools, anchors, buoys and all types of water craft.

James Gilson (Q): What is the Division's right to close a water body?

John Pratt (A): Affirmed that we could; If a water body were closed, a boat would have to be decontaminated before leaving the area.

Laura Kamala (Q): Can quagga mussels be eradicated from a contaminated water body?

John Pratt (A): Eradication may be possible with rotenone or potassium chloride, or if the water body were drained and dried or drained and completely frozen.

Larry Dalton (A): Cost for chemical treatment is very expensive; probably prohibitive.

Walt Maldonado (Q): What about staffing at launch locations?

Larry Dalton (A): DWR has only limited staffing at major launch sites for a single shift a day. Partnerships with other agencies will augment the monitoring program.

Drew Sitterud (Q): What about the preferred substrate for mussel attachment; what is it?

Larry Dalton (A): Quaggas prefer a hard or calcium-rich surfaces. PVC pipe, concrete, cinder block, boat hulls, and plastic are commonly used as attachment substrates.

Questions From Public:

Public (Q): How do you decontaminate bladder boats?

Larry Dalton (A): The self-decontamination process is recommended; but the professional method with scalding water will do the trick. Caustic chemicals, such as bleach or potassium chloride, could damage bladders and other sensitive equipment.

Public (Q): What is the cost for professional decontamination?

Larry Dalton (A): A professional decontamination employs scalding hot water. At Lake Powell, the marina operator charges \$50 per hour. This year, the DWR will perform this service free-of-charge.

Public (Q): I worry about boaters self-certifying.

Larry Dalton (A): Me too, I share that the concern, but boaters have a vested interest in the resource, and have shown extraordinary commitment in other states, where self-certification has been used.

David Lacey (Q): Are there natural predators that could control the quagga mussel?

Larry Dalton: Yes; there are natural predators within its native geographical range in Russia that are able to control the species, but we lack those same natural controls.

Bill Love (Q): Ken's Lake Water Master asked me about monitoring this water for mussel presence.

Larry Dalton (A): The likelihood of contamination is small for Ken's Lake, but monitoring measures that are being developed and decontamination protocols will be shared, so they could do it themselves.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Walt Maldonado (comment): He congratulated the state for its aggressive action to stem the advance of aquatic nuisance species. As a Bass Federation representative, Walt volunteered the assistance of his organization in the effort to stem the advance of these mussels.

Larry Dalton (A): Identified that progress has been made in educating the public, and welcomed the partnership of the Bass Federation.

The AIS plan was an information topic, so no action was taken.

Rule R657-60, Aquatic Invasive Species Interdiction was an action item; a motion was passed that it be recommended to the Wildlife Board as presented.

August 13, 2008 Green River, UT: Vice Chair Terry Sanslow called the meeting to order; there were 22 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Paul Birdsey, Utah Division of Wildlife Resources' Southeastern Region Aquatic Program Manager, presented the Utah Aquatic Invasive Species Management Plan as an action item using a brief PowerPoint presentation. The RAC was reminded that an in depth informational presentation of the draft plan had earlier been made, and that the plan was available for public review and comment at www.wildlife.utah.gov/invasivespecies/aisplan. Questions from the RAC and the public, RAC discussions, and answers from the presenter are included in this summary.

Questions From RAC:

Walt Maldonado (Q): He asked if quagga mussels had been found in Lake Powell.

Paul Birdsey (A): He replied that Lake Powell was still considered free of the quagga mussels, but that status could change in the near future. A Colorado reservoir, draining into the Colorado River, was found to be infested with quagga mussels. Paul indicated that it would only be a short time, before quaggas were washed into Lake Powell.

Questions From Public:

None.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Walt Maldonado (Comment): Walt advised Paul Birdsey that he had been to Hite yesterday. Walt had seen only a few AIS pamphlets, and was alarmed to discover an absence of AIS clearance forms. This represented a serious breach of security for the Lake.

Paul Birdsey (A): He explained that Wayne Gustaveson was in charge of managing all launch areas on the Lake, and was apparently unable to keep up with interdiction demands. Paul said he would contact Wayne and advise him of the security breach.

Pam Riddle (Motion): She presented a motion to approve the AIS Management Plan as presented, which was seconded by Walt Maldonado; it passed unanimously.

Northeastern Regional Advisory Council (RAC)

The meeting agenda included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

May 29, 2008 Vernal, UT: Chair Amy Torres called the meeting to order; there were 25 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Larry Dalton, Utah Division of Wildlife Resources' AIS Coordinator, presented the Utah Aquatic Invasive Species Management Plan as an informational item using PowerPoint. The plan's Executive Summary was provided and the RAC was advised that the plan would be briefly presented again in August, seeking approval. Additionally, Utah Division of Wildlife Resources Law Enforcement Chief, Mike Fowlks, followed Larry Dalton, and presented Rule R657-60, Aquatic Invasive Species Interdiction as a PowerPoint for approval action (it passed unanimously). Questions from the RAC and the public, RAC discussions, and answers from both presenters relate directly to the AIS management plan, so both are included in this summary.

Questions From RAC:

Rod Harrison (Q): Will water from a local car wash kill these mussels on a boat?

Larry Dalton (A): You can't get 140 degree water from a car wash nor from your water heater at home. UDWR is providing cleaning stations which produce 165 degree F. water so that when it is 8 to 10 inches from the wand, the water temperature will be 140.

Questions From Public:

Robert Judd (Q): I'd like to know more about the professional decontamination stations.

Mike Fowlks (A): There will be professional decontamination stations and will be taken care of to ensure excess water is not put aback into the waters.

Robert Judd (Q): Are there any guidelines so they know what they would have to have for decontamination:

Mike Fowlks (A): The only ones are UDWR stations now.

Robert Judd (Q): What if I wanted to start my own business?

Larry Dalton (A): We haven't written guidelines yet. They will be forthcoming. We've been contacted by a few entrepreneurial souls who want to make money. I am happy because I believe private enterprise in the State of Utah can make some money and serve our constituents. Lake Powell has 100,000 launches in a year and they decontaminated 500 boats last year. That's 1/2 of 1% of the boats required decontamination. This year we may find that at some locals we will want to build catchment stations and real drain fields. At Lake Powell with two stations doing 500 boats, there's a pad that captures the water, cleanses it and reuses it on the next boat. We'll be doing boats at 26 locals with portable stations.

The guidelines will give you a list of vendors and guidelines for water temperatures, etc.

Karl Breitenbach (Q): We use a lot of Clorox in the medical profession. Would that work?

Michal Fowlks (A): According to the rule that we're proposing, the only two decontaminations we will accept are "clean, drain and dry" or 140 degree water. We're not authorized for anything else at this point.

Larry Dalton (A): There are other methodologies that will kill them like potassium chloride at 100 parts per million. But the contact time is 12 hours. And you can't hold a rag on your boat

for 12 hours. All of the other methods are caustic and not as effective. They are not immediate, so we're not going to pursue them at this time.

Comments From Public:

None

Comments, Discussion & Motions by RAC:

Kevin Christopherson (Comment): It starts to sound like the sky is falling, but it's more than a fishing issue. You can imagine your irrigation line being impacted. It's a new world and when we start telling boaters they have to wash their boats and not just for a year but forever. We really need the public's support. I'd like to introduce Natalie Muth as our regional aquatic invasive species biologist. She's doing a really great job.

Carlos Reed (Comment): We went to a summit meeting at the UDWR office in SLC and we discussed the Quagga mussel issue and the Endangered Species Act. I got hold of Larry who set up some training for Tribal waters like Midview and Bottle Hollow and Natalie Muth has come over and trained us. We have these certification self-inspection forms at the Ute Plaza and these forms need to be filled out first before you're even able to pick up a permit from the Tribe. The Tribe was presented a program from Natalie yesterday and passed a resolution and that we will help with enforcement from the Tribe side too. We want to let the public know that we will be enforcing this on Tribal waters, and thanks to the Division for the training

The AIS plan was an information topic, so no action was taken.

Rule R657-60, Aquatic Invasive Species Interdiction was an action item; a motion was passed that it be recommended to the Wildlife Board as presented.

August 14, 2008 Vernal, UT: Chair Amy Torres called the meeting to order; there were 12 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Roger Schneidervin, Utah Division of Wildlife Resources' Northeastern Region Aquatic Program Manager, presented the Utah Aquatic Invasive Species Management Plan as an action item using a brief PowerPoint presentation. The RAC was reminded that an in depth informational presentation of the draft plan had earlier been made, and that the plan was available for public review and comment at www.wildlife.utah.gov/invasivespecies/aisplan. Questions from the RAC and the public, RAC discussions, and answers from the presenter are included in this summary.

Questions From RAC:

Kirk Woodward (Q): What is their life cycle?

Kevin Christopherson, Utah Division of Wildlife Resources' Northeastern Regional Supervisor and Northeastern RAC Executive Secretary (A): They are very adaptive and very aggressive. They have a free swimming stage called veligers, they release them by the millions per mussel. Some of those veligers will turn into adults the same year and some take two years. They are like seeds to the wind. In Lake Mead, it took many years before we found them, and so you're always playing catch up. We know what mesh size

to use now to collect them and the best time of year to sample. Samples have been taken at Flaming Gorge last year, and we'll have do more tests this year. In Lake Mead, once they found them, the population just exploded exponentially.

Kirk Woodward (Q): Is there any natural predator?

Roger Schneidervin (A): In Europe there is a fish that can crack them but some mussels have a shell that closes so they pass right through the fish's digestive system without being affected.

Questions From Public:

Ryan Kramer (Q): Are they doing something for internal boats as far as making sure they've been drained?

Roger Schneidervin (A): If your boat's been to one of these lakes there will be some follow up. We are looking into chemical solutions to be poured into the coolant. Some boats have separate air conditioning water units. It's kind of an evolving process and we're trying to keep a step ahead of it. There have been good ideas that have come from boaters and technicians.

Russell Lee (Q): With our cold winters, does that help kill them? And, where did they come from?

Roger Schneidervin (A): If the boats dry for several weeks the quagga will become desiccated. In winter they'll freeze. If they're moist though, they can last a long time. We're encouraging boaters to clean, drain and dry their boats and any other equipment that touches the water. Specifically, "clean" plants, fish, mussels and mud from your boat; "drain" the water from all areas of your boat and equipment; and "dry" your boat and equipment in the sun before using it again. In the summer, let it dry for at least 7 days in the sun. In the spring and fall, dry it for 18 days in the sun. In the winter, leave your equipment out for 3 straight days in temperatures that do not rise above 32 degrees during any of the days. Leaving it out for 3 days should be enough to kill any mussels that are on your equipment.

Roger Schneidervin (A): They came from Europe into the Great Lakes and Erie Canal through bilge water.

Roger Schneidervin (A): New Zealand mud snails, another AIS, have moved around rapidly, too. They can stick into the felt of waders and can last for weeks in the damp foot, and they're asexual so they can multiply. Although, we haven't seen the negative impact to fisheries with the mud snail that we were worried about.

Ron Stewart (Q): If mussels are in a reservoir, are they going to survive winter?

Kevin Christopherson (A): They're flourishing in Lake Michigan which freezes-over in winter.

Tyson Kramer (Q): Are there any universities doing studies?

Roger Schneidervin (A): There are several universities working on it. UDWR's Fishery Experiment Station is coordinating with Utah State University's Fish and Wildlife Department on possible ongoing research comparing various early detection methodologies.

Tyson Kramer (Q): What does it do to the fish habitat?

Roger Schneidervin (A): It does a lot of harm. They filter a huge volume of water per day, like a quart per quagga mussel. They take all the algae out of the water. Some mussels attach to shallow water, others go deep.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Kevin Christopherson (Comment): I just met with Colorado and their state gave them 3.1 million dollars to protect water pipes, intakes, etc. It was a unanimous vote. On major reservoirs in Colorado, the BOR is threatening to shut waters to boaters now, before the problem happens if agencies can't prove they are taking effective measures to control mussels in order to protect power generators, etc. In Utah we will fail without continued public support because with current funding (\$1.4 million General Funds per year) we're probably only getting 40% coverage for recreation hours of use on our major lakes. We need more funds.

Roger Schneidervin (Comment): Our farmers only use 2" and 4" irrigation lines, while some of the other pipes in industry are huge, but are being clogged. I don't see how we could deal with it and keep raising hay and irrigating crops if the mussels get into our waters.

Karl Breitenbach (Motion): He presented a motion to approve the AIS Management Plan as presented; it was seconded by Kirk Woodward; passed unanimously!

Central Regional Advisory Council (RAC)

The meeting agenda included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

June 3, 2008 Springville, UT: Chair Ed Kent called the meeting to order; there were 593 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

John Fairchild, Utah Division of Wildlife Resources Central Region Supervisor, briefed the meeting attendees indicating that all seasonal technician positions were filled to carry out the AIS program in the region. So, boaters should expect to be checked at boat ramps by the technicians inspecting their boats in order to avoid the spread of invasive quagga and zebra mussels.

Larry Dalton, Utah Division of Wildlife Resources' AIS Coordinator, presented the Utah Aquatic Invasive Species Management Plan as an informational item using PowerPoint. The plan's Executive Summary was provided and the RAC was advised that the plan would be briefly presented again in August, seeking approval. Additionally, Utah Division of Wildlife Resources Law Enforcement Chief, Mike Fowlks, followed Larry Dalton, and presented Rule R657-60, Aquatic Invasive Species Interdiction as a PowerPoint for approval action (it passed unanimously). Questions from the RAC and the public, RAC discussions, and answers from both presenters relate directly to the AIS management plan, so both are included in this summary.

Questions From RAC:

Byron Gunderson (Q): If invasive species are discovered in a reservoir somewhere how do you intend to contain that species?

Larry Dalton (A): Mike Fowlks will talk about the law enforcement aspect of that. We will be controlling people being able to go to or leave such a reservoir. The operator of such a reservoir would have to develop a plan that is approved by the Division of Wildlife. Mike will talk more about that.

Ed Kent (Q): Has the memorandum been adopted yet between you and UDOT, regarding ports of entry?

Mike Fowlks (A): No, it has not. We have initiated contacts with UDOT but we want to get the rule in place so we address all the issues.

Ed Kent (Q): Have you identified any times and locations you may be working with UDOT at ports? I assume the main location would be in St. George.

Mike Fowlks (A): That will be the most important one. The southern region has looked at when the most effective times will be.

Byron Gunderson (Q): Draining seems fairly straight forward but if you just dump your bilge into the storm water system you are actually propagating the spread of these species. Would there be a Clorox or other chemical you could put in the water before you drain it?

Mike Fowlks(A): There are chemicals that will kill these critters. They are expensive in the concentrations you need. We are not going to approve those as official decontamination. What you need to remember is if you are in infested waters you need to clean and drain prior to leaving, then dry for the appropriate amount of time as Larry identified.

Questions From Public:

Todd Carter (Q): If we know Lake Mead is a problem could we call a special legislative session and pass into law that boats have to stop at the port of entry to be cleaned? It would be easier to stop them there than at every reservoir in the state.

Larry Dalton (A): Again I don't want to steal Mike's thunder but in fact we will be dealing with ports of entry and the law will allow us the ability to work there.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

The AIS plan was an information topic, so no action was taken. But, Rule R657-60, Aquatic Invasive Species Interdiction was an action item; a motion was passed that it be recommended to the Wildlife Board as presented.

August 14, 2008 Springville, UT: Chair Ed Kent called the meeting to order; there were 200 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Evan Freeman, Utah Division of Wildlife Resources' Central Region AIS Biologist, presented the Utah Aquatic Invasive Species Management Plan as an action item using a brief PowerPoint presentation. The RAC was reminded that an in depth informational presentation of the draft plan had earlier been made, and that the plan was available for public review and comment at www.wildlife.utah.gov/invasivespecies/aisplan. Questions from the RAC and the public, RAC discussions, and answers from the presenter are included in this summary.

Questions From RAC:

Byron Gunderson (Q): Is the 140 degree decontamination procedure free?

Evan Freeman (A): That is free with our state owned units. There currently is a charge if you go to Lake Powell, however, we have been working with them to eliminate that cost.

Questions From Public:

Matt Madsen (Q): Is there anything being done as far as phragmite control at Utah Lake?

Evan Freeman (A): I am not aware of that.

John Fairchild—Utah Division of Wildlife Resources Central Region Supervisor (A): There is currently no project planned on Utah Lake but the Utah Lake Commission will be looking at different things that impact the June sucker and this would be one of them.

Matt Madsen (Q): How much will the lack of federal intervention impact our ability to keep these out of our waters? We have them in Colorado, Nevada and Arizona and the feds are basically doing nothing.

Evan Freeman (A): This is one of the first steps to actually getting some money from the federal government. Once we get our state plan approved then we take it to the national invasive species committee. Once that is approved then there is some money that can be directed toward the state. Also, we are also working very closely with the park service at Lake Powell.

Matt Madsen (Q): People fish in Colorado and then come over and fish in the basin and no one is checking as they come into the state. We have the same problem with Lake Mead. I know we are limited. Is the four day work week going to affect that too?

Evan Freeman (A): One of our problems is man power. We are working to address that in the future because we are limited. We are working with UDOT to try to get some cooperative agreements to work port of entries. That is still in the works.

Matt Madsen (Q): Is the legislature going to give you money for this?

Ed Kent—RAC Chair (A): They appropriated 1.4 million dollars this session for the program.

Evan Freeman (A): The legislature gave us 1.1 million dollars for fiscal year 08 and then ongoing 1.4 million building blocks.

Steven Close (Q): As a dedicated hunter I spent a day doing surveys at the American Fork boat harbor. I look at the overall problem and feel like we aren't really extending very much resource to get a handle on this. I would like some clarification about the program. You talked about the checking stations conducting surveys but when will that happen?

Evan Freeman (A): That would be our personnel working at the port of entry station. The timeframe is up to people higher up than I am.

Steven Close (Q): Why would it be the fish and game personnel to require boats to show validation? Most boats that have been checked are fine to drive through. It's the holes and gaps and people who haven't been checked that require the education.

Evan Freeman (Q): We have an outreach strategy through the media trying to get the knowledge out. We have had a good response from most of the public. We get calls asking us to come and decontaminate their boats instead of us having to stop them at the gates.

Kyle Dodge (Q): Have predators of these invasive species been discovered?

Evan Freeman (A): We don't have any natural control methods in the United States that would limit the population or decrease the population.

Kyle Dodge (Q): But they came from another country.

Evan Freeman (A): Correct, their original range was the Eurasia. The Black Sea, the Caspian Sea. There are natural controls in that area.

Kyle Dodge (Q): Is the Division considering introducing exotic predators?

Evan Freeman (A): Not at all, that would just compound one problem with another. The perfect example of that is one of the native predators around Gobi was accidentally introduced into the great lakes region. While they do feed on muscles they are finding it a lot easier to feed on the salmonid eggs and walleye eggs.

Kyle Dodge (Q): Do you anticipate the professional cleaning having a cost in the future?

Evan Freeman (A): We are assessing that right now. We don't plan on a cost. We get a lot more cooperation if we are providing it at no cost.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Richard Hansen (Q): Seeing how this isn't just a fisherman problem are you receiving any money from the State?

Ed Kent—RAC Chair (A): 1.4 million dollars was appropriated of general fund money.

Fred Oswald (Motion): I move to approve plan as presented

Gary Nielson (Motion): I seconded.

Note: Motion passed unanimously!

Northern Regional Advisory Council (RAC)

The meeting agenda included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

Larry Dalton, Utah Division of Wildlife Resources' AIS Coordinator, presented the Utah Aquatic Invasive Species Management Plan as an informational item using PowerPoint. The plan's Executive Summary was provided and the RAC was advised that the plan would be briefly presented again in August, seeking approval. Additionally, Utah Division of Wildlife Resources Law Enforcement Captain, John Pratt, followed Larry Dalton, and presented Rule R657-60, Aquatic Invasive Species Interdiction as a PowerPoint for approval action (it passed unanimously). Questions from the RAC and the public, RAC discussions, and answers from both presenters relate directly to the AIS management plan, so both are included in this summary.

May 29, 2008 Brigham City, UT: Chair Brad Slater called the meeting to order; there were 151 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Questions From RAC:

Dennis Shirley (Q): Is there any biological control internationally that might be able to be placed in the water.

Larry Dalton (A): The State of Minnesota has had this problem for 20 years. We are launching a campaign like they have. They have held the mussels at bay for 20 years; at least holding them to the original 4 lakes and the Mississippi River that were originally infested.

Dennis Shirley (Q): Are there some biological control methods?

Larry Dalton (A): A researcher has been working with a bacteria called psuetonomous. If we swept this floor and cultured the dust, we would find psuetonomous. It kills the mussel pretty good but not 100%. They just received a grant to go commercial with it. We think it will be available in 2010, but have no idea what the cost will be.

Foutz (Q): Are new boat owners who are purchasing boats getting this information at the time of sale?

Larry Dalton (A): I think so. The coast guard has given us a hand in distributing the Zap the Zebra brochures. And, the table topper display has been placed all over the state of Utah. The next step is to deliver a maintenance message to boat shops about how to deal with this issue. Other states will pitch in and give us a hand with boat repair shops.

Ann Neville (Q): I have a question on bringing a boat from Lake Mead or whatever and they go to the local car wash and spray it down. That is not decontaminating but will the mussels go down storm drains.

John Pratt (A): Yes they will and they will live for 30 days.

Ann Neville (Q): So there is there any plan to address those types of cleaning?

John Pratt (A): The car washes are not 140 degrees so it is not decontamination.

Ann Neville (Q): That is what I mean. They are going to get into the storm drains.

John Pratt (A): Yes. Larry can probably address that. Its not against the law to prevent people from washing at car washes, but that will not kill the quagga mussels, since its not hot enough.

Larry Dalton (A): The sand filters at the car wash, as the water leaves and enters the sewage system, will likely hold them back, but the treatment at the downstream water reclamation plant will not likely kill them.

Ann Neville (Q): No chemicals will kill them on your boat?

John Pratt (A): There are 2 chemicals on the market. Potassium Chloride and Chlorine. Both require an extended period of contact time—up to 7 days.

Ann Neville (Q): They won't desiccate in 7 days?

John Pratt (A): Depending; summer time hot and dry are bad on mussels. Cold, cool or damp are good for them. The law defines the drying time by a month.

Ann Neville (comment): I am just trying to help us and help people figure out how to clean their boats.

Gaskill (Q): What is the penalty?

John Pratt (A) Class B misdemeanor. Knowing you are intentionally possessing mussels makes it a class A.

Gaskill (Q): Do you think it ought to be capital? [humor]

John Pratt (A) No, I think that every water user ought to be able to take their licks on him. [more humor]

Cowley (Q): I find myself a little concerned over the closure order on water bodies. I am wondering if you can walk me through that. Let's say we detect them at Pineview Reservoir.

John Pratt (A): First of all, Larry Shaw [conservation officer] will have to identify what is there. We have to be 100% certain.

Cowley (Q): I was looking at the number of campground hosts and boat launch hosts; not enough to catch every boater before they launch or leave.

John Pratt (A): Once we make the decision a water is infested, and the director has the closure order, in consultation with the management agency--that would be the forest service and Pineview water users and bureau of reclamation--there would probably be 3 involved in that. We would go through the order and decide on a control/containment plan. We need to stop immediately any boat movement that would spread that mussel.

Cowley (Q): That is why I am wondering if you are going to have 100 boats sitting on the reservoir that are not being allowed to pull out of the docks.

John Pratt (A): They would not be allowed to leave, unless they decontaminate. So what we would do is start scrambling and if they guy wants to bring his boat out, he gets decontaminated on his way out and does not go back in.

Cowley (Q): As we try to keep these mussels out of the state of Utah, I wonder why you wouldn't just have your limited decontamination units at your port of entry and then at Lake Powell and do a decontamination as boats leave those facilities instead of trying to find them while coming in to each water.

John Pratt (A): That is why port of entries were in the rule. We need to be moving in that direction.

Cowley (Q): That would be all of your drinking water facilities or irrigation facilities would be shut down at that point.

John Pratt (A): We are asking for a plan to control that boat traffic. I could not shut Pineview water treatment plant off.

Cowley (Q): That would not be a physical feature conveyance.

John Pratt (A): The water treatment plant is not a conveyance. But, the plan needs to address all of those.

Larry Dalton (A): You asked a question as to why we are not using ports all the time? We will work ports of entries when times are best. We will be working launch sites, too; they are good everyday. We do not have enough resources to work ports or launch sites 24/7. We can be there 5 days a week, one shift a day. We will do the best we can. We are setting up a scheme of a double shield by working ports & launch sites. There are several things in play here to shield the state of Utah from these mussels—interdictions, outreach, enforcement.

Cowley (Q): On the Forest Service side we are picking up funds to help increase that shield, especially at the high use lakes.

Larry Dalton (A): We appreciate that help. We understand there are 3 decontamination units.

Ann Neville (Q): In the rule it does not say under the closure part of it, it says that the controlling entity would be bringing in or taking out. It does not say that anything can be removed, so that is implicit what you said as far as if they are decontaminated, they can leave?

John Pratt (A): Where are you at? [reading in the proposed rule]

Ann Neville (Q): I am on 60-8, closure order for water body facility or water supply.

John Pratt (A): It includes decontamination.

Ann Neville (Q): Ok, do we assume that it is implicit or do we need to modify that so that it is very clear to a boat owner who is on Pineview that they can leave if their boat is decontaminated?

John Pratt (A): I am almost certain that it is here in the rule; I am just going to find it for you.

Ann Neville (Q): I want to make sure that the boat owners understand what they can and can't do.

Cowley (Q): I believe that the rule is very clear to that?

Walt Donaldson, Utah Division of Wildlife Resources' Chief of Fisheries (A): What we will do is take that information as we move forward and present that to the board. If you give us some time to look at that. What we ask the RAC tonight is to generally approve the concept with the condition that we look to make sure that is not implicit and that it is clear before it goes before the board for their action. Would that be helpful?

Ann Neville (Q): Yes, I just feel it would be better for the public to know what they are getting into.

Walt Donaldson (A): That would be appropriate.

Cowley (Q): As I look at this rule, if we look back under the definitions it may be semi-covered there where we are saying a conveyance refers to a vehicle or vehicle parts that may carry or contain. If it is decontaminated, it no longer carries or may contain the mussel. It would be better if it was spelled out in the closure.

Questions From Public:

John Staley (Q): The first question on your self-certification form asks if in the last 30 days, has your boat been used in Lake Powell, outside of Utah or in any of the following waters? How do I answer that question?

Pratt (A): Have you been in one of these waters? Either, Yes or No.

John Staley (Q): It says outside of Utah; I fish on the Wyoming side of Flaming Gorge.

John Pratt (A): OK, you are going to say yes--I have been to Flaming Gorge in Wyoming. We are going to look and say "no problem". This is a definitive assessment of where you have been.

Myron Porter (Q): If I understand you, you are targeting boats. What about the pontoons, kayaks, canoes and waders? If I use a float tube in Lake Powell, must I wait 18 days in May before I fish in Mantua, etc.? If you just inspect the boats, you are not going to catch it right? Does the law already apply to those other things?

John Pratt (A): You have to go back to the definition of conveyance; we will inspect those other things, since they could carry quagga mussels.

Myron Porter (Q): Cooler water, if you put lake water in it, is it a conveyance you would inspect?

John Pratt (A): Yes. The biggest threat to the state of Utah comes from a mussel attached to a boat. Just good healthy boating habits--Clean, Drain & Dry--will get you by.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Ann Neville (Comment): I appreciate the Division's aggressiveness on this.

Ron Hodson, Utah Division of Wildlife Resources' Northern Region Supervisor and Northern Region RAC Executive Secretary (Survey): He conducted an informal poll with the 151 members of the audience whether or not they had heard about the quagga mussel prior to the RAC meeting presentation. About 15% had not; about 40% had heard enough to know there was a problem and that they needed to do something to clean their boats; about 45% had heard a lot about the problem and understood what to do with their boats in terms of decontamination.

The AIS plan was an information topic, so no action was taken.

Rule R657-60, Aquatic Invasive Species Interdiction was an action item; a motion was passed that it be recommended to the Wildlife Board as presented, with modification to make it more clear as per Ann Neville's questions; passed unanimously!

August 20, 2008 Brigham City, UT: Chair Brad Slater called the meeting to order; there were 40 interested parties in attendance in addition to the Regional Advisory Council members, Wildlife Board members and Utah Division of Wildlife Resources employees.

Craig Schaugaard, Utah Division of Wildlife Resources' Northern Region Aquatic Program Manager, presented the Utah Aquatic Invasive Species Management Plan as an action item using a brief PowerPoint presentation. The RAC was reminded that an in depth informational presentation of the draft plan had earlier been made, and that the plan was available for public review and comment at www.wildlife.utah.gov/invasivespecies/aisplan. Questions from the RAC and the public, RAC discussions, and answers from the presenter are included in this summary.

Questions From RAC:

None.

Questions From Public:

None.

Comments From Public:

None.

Comments, Discussion & Motions by RAC:

Gaskill (Motion): I Move to accept the division's proposal as presented.

Byrnes (Motion):I second.

Note: The motion carried unanimously!

Utah Wildlife Board

The meeting agendas included multiple topics; comments, discussion and motions relative to the Utah Aquatic Invasive Species Management Plan follow:

June 19, 2008 Salt Lake City, UT: Chair Paul Niemeyer called the meeting to order; there were 5 interested parties in attendance in addition to the Utah Wildlife Board members, RAC Chairs or their designees, and Utah Division of Wildlife Resources employees. A draft Utah Aquatic Invasive Species Management Plan was presented as an information item and Rule R657-60, Aquatic Invasive Species Interdiction, was presented for action. Board minutes are as follows:

Larry Dalton, AIS (Aquatics Invasive Species) Coordinator presented this agenda item using a PowerPoint presentation. He said that relative to AIS, “we are going to work forever to keep them out, or work forever to get rid of them.” Keeping them out is the smartest and the cheapest option. AIS are non-native and their population expands uncontrollably. They always cause ecologic and economic harm. There is quite a list that is threatening Utah and it is always changing. We have several of the fungus and algae that are affecting some of our waters and quite a list of plants. We have been dealing with these problems for years. The New Zealand Mud snail seems to be moving through irrigation systems and is transported on fishermen’s felt boots. There are also several mussels that are causing problems in our area. We also have non-native fish, amphibians, and reptiles in our habitats. There are other issues that are threatening Utah from an aquatic invasive species issues including aquarium discards. Aquascaping also adds to these problems. Bait releases are also adding to the problem. We have so many pathogens around these days, and we are seeing diseased baits. On aquaculture, the state’s Fish Health Board inspects for pathogens, inspecting state, federal and private hatcheries. There are many ongoing actions in Utah working to protect native habitat and species.

A new policy was created last year to prevent the invasion of *Driessena* mussels into Utah. This is a Utah Department of Natural Resource Policy and it identified the Utah Division of Wildlife Resources as the state’s lead agency. We have hosted numerous interagency meetings within and outside of Utah. We are recognized as the lead agency on this issue in the West. We are setting precedent every week and the various states call seeing how we are dealing with this issue. We have launched a quagga education and implementation plan and outreach is the main focus of it, trying to teach Utah’s public about how we can fight this invasive species.

We are interdicting and decontaminating watercraft all across the state of Utah. We will be looking at containment issues if we actually get the quagga mussels in Utah and certainly we have many invasive species here already. We are developing new laws and training personnel about how to deal with aquatic invasive species. We put a multi-agency Utah AIS Task Force in place this year to prepare the plan being presented today. In November we will be presenting the plan in Washington D.C. and after that the Utah Division of Wildlife Resources should be able to garner \$40,000 from the U.S. Fish and Wildlife Service as support to states that have an approved plan. The plan’s purpose is to

develop and document a program to be implemented for aquatic invasive species management within Utah. The goal is to keep AIS out or contain where we already have them.

There are several objectives in the plan. The Outreach objective is three fold: media, public education (adult boat owners) and next generation education (secondary & university students). The plan's decontamination objectives are interdiction (pre-launch boats), do-it-yourself decontamination (Clean, Drain & Dry), and professional decontamination (wash & flush with 140 degree F scalding water).

Mr. Dalton went on to discuss the management objectives of the plan, the plan targets *Dreissena* mussels, where they have come from, how the mussels move and the specific waters that are presently at risk to Utah. (See PowerPoint presentation for details) He went over the economic impacts of these mussels from a maintenance perspective and recreational expenditure perspective.

Utah Division of Wildlife Resources' team was funded at the last legislative session at about 1.4 million dollars a year. That is ongoing general fund money. We have a biologist over this specifically in every region and have put 35 wildlife technicians on our boat ramps across the state inspecting boats. We are going to add five conservation officers to our current staff. This program is going to cause more work for our officers.

The Zap the Zebra Brochures were mailed to 65,000 boat owners. As you enter Utah's parks and boating waters there are signs indicating that you have to self-certify as mussel clean before you launch. We have put 3,000 smaller versions around the boat launching areas. We have put 9,000 posters out that have this information on them. Self-certification is the cornerstone of this program. Every boater must self-certify, before launching, that his boat is mussel free. We have put 200,000 of these certifications on the ground and we are starting to see a day where we will run out of them. We will continue to make these signs, posters, billboards and certifications through the years. This management plan will be brought to the Board for approval in late August, but this is a working document. This concluded the presentation.

Mr. Woodard [board member] said the small watercraft need to be mentioned in the plan.

Mr. Dalton said they are including these in the plan. The jet skis are quite a challenge and they are becoming aware of new problems all the time.

Mr. Howard [board member] asked if there is any chemical that we could put in the ballasts of the boat.

Mr. Dalton said there is, potassium chloride, it will kill them at about 100 parts per million. This would be safe for the resource, but the contact time is 48 hours, so you cannot do the outside of a boat for this length of time. We are injecting potassium chloride into the ballast tanks. The owner helps us understand how much water is retained in the ballasts. If they have come from a infested water, we may have to

quarantine them for 48 hours, but have not run into this situation yet. Chorine works as well, but does not do a 100% kill. We are looking at a new product called Rydlyme that can be sprayed on the mussel. It immediately begins to dissolve the shell and we are experimenting with it. The National Parks do not want chemicals used that have not been tested.

Mr. Brady said at Lake Powell, a lot of people launch and retrieve their boat daily. Do they have to have a new card every time?

Mr. Dalton said Lake Powell was a very suspicious spot when we started down this path. Last August we found veligers for *Dreissena* mussels in Lake Powell. We have sampled a lot since and not found them. What we do not know is if the mussels we found are definite, since only one of the three labs tested positive for them. At the time that we printed the first 100,000 pamphlets, Lake Powell was a very suspicious spot. We do not believe Lake Powell is an issue at this point, but will keep close watch with its proximity to Lake Mead.

Director Karpowitz said that Mr. Dalton and the rest of the aquatics staff should really be complimented on how fast they got this program in place. We really are a leader in the west and other states are modeling what we are doing. Mr. Dalton has become a leading expert in the west on this subject. This is a great service for the state of Utah, not only for fishermen, but everybody who uses water. All of us will be impacted if we cannot stop this. Our crew should really be thanked for giving it a great effort for prevention. This effort was put on people who already had a lot to do.

Michael Fowlks, Law Enforcement Chief presented Rule R657-60, Aquatic Invasive Species Interdiction, using a PowerPoint presentation. This rule is the next piece in the puzzle following the AIS management plan. We realized we had an issue with being able to interdict and enforce with regard to *Dreissena* mussels, because most of their life stage they are not visible. We needed to have some legislation, which enhanced our ability to interdict when we could not see when these invasive mussels were being carried. Senator Greiner carried Bill 238, which passed in the last session and is currently in effect as of May 5, 2008. Mr. Fowlks went over items specified by code to be included in the rule, definitions, and infested waters. (See Powerpoint Presentation for details) Possession of *Dreissena* mussels is prohibited and written approval from the Utah Division of Wildlife Resources' Director is required to import or possess these mussels. If someone discovers or has reason to believe mussels are present, they must report it at Utah Division of Wildlife Resources' offices, through the website or through the UTIP hotline. He went over the details for transportation of conveyances, certification that is required to launch in a water body, and water body closure upon confirmation of microscopic or visible forms by the Utah Division of Wildlife Resources. Notifications will be given as updates on the status of the closure by the controlling entity. Control plans will be required once a closure is ordered, but may be prepared in advance to prevent closure. Relative to Ports of Entry, the Utah Division of Wildlife Resources will negotiate a Memorandum of Understanding with the Utah Department of Transportation for the use of Ports of Entries. This concluded the presentation. He asked if there were any questions.

Mr. Perkins [board member] said we have a designation of the Board of infested waters, what does that do when the Board makes that designation?

Mr. Fowlks said in order to stop someone and compel them to decontaminate, we have to have a list of infested waters. This provides us with an opportunity, if they are transporting from infested waters, we can stop them, ask some questions and have them decontaminate.

Mr. Brady [board member] said on the Utah Department of Transportation port of entry near Kanab on the way to Wahweap, are you required to stop there every time?

Mr. Fowlks said the Memorandum of Understanding will cover when and where we will do those checks and signage will be required. The bigger boats that are transported by major carriers are required to stop already.

Regional Advisory Council (RAC) Recommendations to the Wildlife Board Regarding R657-60

Southern – Mr. Albrecht [RAC Chair] said there were a lot of the comments that were received at their RAC that have come up today. We had a lot of discussion and a lot of questions answered. We passed it unanimously.

Southeastern - Mr. Sanslow [RAC Chair] said some of their questions were answered at their meeting and it was voted unanimously to accept as presented. His RAC understands what a serious problem this is and they want to commend the Utah Division of Wildlife Resources for their actions.

Central – Mr. Kent [RAC Chair] said their questions were answered at their meeting. There was very little discussion and it was passed unanimously.

Northeastern – Ms. Amy Torres [RAC Chair] said there was interest from the public and the RAC in setting up commercial decontamination stations and evidently there is no rule for these as of yet. They are being developed. They passed the proposal unanimously.

Northern – Mr. Slater [RAC Chair] said they had similar questions and had good interaction. They passed the proposal unanimously. The Regional Supervisor took a quick poll of the public in the audience of the education that was going on. It was interesting to see that a good majority has heard, seen or talked with someone about this problem. The public education process is occurring.

Wildlife Board Chairman Niemeyer asked if there was any public comment and there was none.

The following motion was made by Rick Woodard, seconded by Keele Johnson and passed unanimously.

MOTION: I move that we approve Rule R657-60 Aquatic Invasive Species Interdiction as presented by the Division.

August 7, 2008 Salt Lake City, UT: Chair Paul Niemeyer called the meeting to order; there were 5 interested parties in attendance in addition to the Utah Wildlife Board members, RAC Chairs or their designees, and Utah Division of Wildlife Resources employees. The Utah Aquatic Invasive Species Management Plan was not an agenda item of this meeting, but an amendment to Rule R657-60, Aquatic Invasive Species Interdiction was an agenda item. Implementation of the rule has direct bearing on the Utah Aquatic Invasive Species Management. Board minutes are as follows:

Larry Dalton, Utah Division of Wildlife Resources' AIS Coordinator presented this amendment. "They have found quagga mussels in Lake Granby in Colorado. This lake is at the headwaters of the Colorado River." When Colorado announced that finding, Mr. Dalton was in a meeting with experts on the quagga mussels. One of the experts [Bob McMahon] was convinced that these mussels will make the trip down the river to Lake Powell. There were people from the mid west and east at this meeting who were faced with this 20 years ago and they told him not to panic. You will get them and this is your first time at bat.

The Division is asking that Rule R657-60, Aquatic Invasive Species Interdiction, add Lake Granby Colorado to the list of infested waters in R657-60-2(2)(g). We are probably going to see more listings in the future.

A question that the Board might have, is how good is this finding. Colorado uses an approach almost identical to the system Utah is using to identify these mussels. (See Attachment #2 for details) [A positive find via microscopy of a plankton sample occurred, which was followed by PCR on that sample by two independent labs.]

Mr. Hatch [board member] asked if it would make sense to add this water and any other waters that are identified.

Mr. Dalton said he discussed this with Mr. Bushman [assistant Utah Attorney General assigned to Utah Division of Wildlife Resources] and he advises against this.

Mr. Hatch said we could add any waters that are tested by methods approved by the state of Utah.

Mr. Bushman said when this bill was written he argued for that broader authority [with Utah Legislative legal counsel], but in statute it requires the Board action to add these waters. The language they wanted was "an infested water is defined as any water or geographic area that the Wildlife Board designates in rule as being infested." We are not ready to list the entire Colorado River drainage as infested waters. The statute is what ties our hands. These infested waters are the catalyst by which you could be held

criminally liable if a boat has been in the waters and it spreads the mussels, because it was not disinfected.

We have drafted a rule that the Board will see sometime in August. This will allow the Board to meet telephonically. We will need to give 24 hours notice and will have a site set up at the Division where anyone can come sit and listen. The rest of the Board can participate from home, work or wherever. We can amend this rule in 3-4 days once we are made aware of an infested water. If we see a chain reaction down the Colorado, we might have to go to designating areas.

Mr. Perkins [board member] said if we have mussels in Lake Granby, why wouldn't we designate the waters immediately downstream from there?

Mr. Bushman said we would have to designate the entire Colorado River in Utah as well, down to Lake Powell. We are not to a point where we have to do that, since we have not actually found it.

Director Karpowitz [Utah Division of Wildlife Resources and Executive Board Secretary] said everybody going in or out of Lake Granby will have to decontaminate. It is a total lock down. That is another safeguard we have. We will also step up our monitoring of Lake Powell on the upper end. We have been testing it every two weeks. Lake Granby flows into the Colorado and the North Platt, both ways across the Continental Divide.

Mr. Woodard [board member] asked if Director Karpowitz sees us as going into a complete lock down.

Director Karpowitz said our plan says that if it shows up in Lake Powell we will go into containment mode, which means that any boat that comes off Lake Powell will have to be decontaminated. When anyone tries to launch into another water, if they have been in Lake Powell, they will have to produce a certificate of decontamination.

Mr. Dalton said Utah is being seen as a leader in this situation. We talk with someone from the surrounding states every other day. We are in constant communication.

Mr. Perkins asked if we have talked to the river rafting businesses in Utah.

Mr. Dalton said as this find happened, we asked our Northeast and Southeast regions to get in touch with the river guys and start saying they need to beef up the information they share with customers and employees. One of the Division employees went into the BLM office in Monticello to talk to them. They issue most of the permits on the Colorado River system.

The following motion was made by Rick Woodard; seconded by Ernie Perkins and passed unanimously.

MOTION: I move that we add Lake Granby Colorado to the list of infested water in the Aquatic Invasive Species Interdiction Rule R657-60.

August 28, 2008 Salt Lake City, UT: Chairman Niemeyer welcomed the audience and introduced the Wildlife Board members and RAC Chairs. Five members of the public were present.

AIS Management Plan (Action)

Larry Dalton, Wildlife Program Coordinator presented this agenda item. Since the May/June RACs the draft plan has been available for public review. It has been on the DWR website for review. He is here today to achieve Board action to approve the plan. He then gave a quick summation of the plan as follows:

We have a number of aquatic invasive species that threaten the state of Utah. We were fortunate to capture the legislature's attention in the last session and we spent 1.1 million dollars in the last budget in the attack on these species, mostly focusing on the dreissena mussels, which are the quagga and zebra mussels. The legislature saw the merit of this program continuing and appropriated 1.4 million dollars of ongoing general funds. We have been working on the plan with a large team, state, federal and private interests, and it is ready for Board approval.

Steps that will happen in the future are RDCC will look at this plan next month and comment on it. In early November we will take this to the Aquatic Nuisance Species Task Force in Washington D.C. This is the first step in getting this plan ultimately approved. The plan targets dreissena with most effort to keep quagga & zebra out. Much effort on New Zealand mud snail management, limited effort on Eurasian Watermilfoil management and less effort on other AIS management outlines the efforts being made. The plan with appendices is several hundred pages long and has been provided to the Board.

RAC Recommendations

After a report of some discussion and questions in the various RACs, all the RACs passed the proposal unanimously

The following motion was made by Rick Woodard, seconded by Ernie Perkins and passed by the Utah Wildlife Board unanimously.

MOTION: I move that we accept the AIS Management Plan as presented by the Division.

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**Aquatic Nuisance Species Task Force's Comments
Regarding the Utah Aquatic Invasive Species Management Plan
and Utah's Response**

ANSTF comments Provided Via Email and Discussed Via Telephone Conference on 4-28-09: L.Dalton, D.MacLean, S.Mangin & E.Williams

Note: Yellow Highlights are considered by ANSTF as needing the most attention.

ANSTF comments Provided Via Email and Discussed Via Telephone Conference on 4-28-09: L.Dalton, D.MacLean, S.Mangin & E.Williams

Note: Yellow Highlights are considered by ANSTF as needing the most attention.

ANSTF Summary Comment: The information contained in the Utah AIS Management Plan is good solid information that serves as an excellent foundation for an ANSTF approved State ANS Management Plan.

UDWR Modification to Plan: None needed.

ANSTF Summary Comment: The Rapid Response Strategy is an excellent section of the plan that should serve the state of Utah in its effort to prevent new introductions and manage the spread of existing established AIS.

UDWR Modification to Plan: None needed.

ANSTF Summary Comment: The plan is missing many of the required components listed in the Guidance, some of which are critical for ANSTF approval.

UDWR Response: Mr. Scott Newsham, the ANSTF Secretary at the time for onset of plan preparation (January 15, 2008), advised that the Guidance needed a re-write and he would have it done for our use; in the interim Mr. Newsham advised to peruse a couple of recently approved plans as a guide—Idaho’s and South Carolina’s plans were selected, and he concurred.

Executive Summary

ANSTF Summary Comment: The executive summary is designed to give the reader an overview of the entire AIS Management Plan.

UDWR Modification to Plan: The Executive Summary has been modified, with much of its previous information being placed in the subsections within the “Introduction” section and the section titled “Efforts to Facilitate AIS Management in Utah.”

Introduction

The introduction of the plan has information on the AIS problem in Utah, some of the impacts, and the history of plan development. However, it does not include the following items listed in the Guidance:

- **ANSTF Summary Comment:** Geographic scope of Plan, including a map and discussion of the geographic area showing water bodies, drainage basins, and major structural features.

UDWR Modification to Plan: The “Introduction” section has been modified—see “Aquatic Invasive Species That Threaten Utah;” which now includes Figure 1 as a map and additional discussion.

- **ANSTF Summary Comment:** Please include a brief explanation of the connection of the ANS plan to other plans produced by entities with

overlapping jurisdictions (or states) or covering shared waters. If there are no other plans with overlapping jurisdictions, please state that.

UDWR Modification to Plan: The “Introduction” section has been modified—see “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” subsection for additional discussion.

Problem Definition and Ranking

ANSTF Summary Comment: The plan doesn’t have a specific section that covers this topic. Although some of the overall history of AIS problems in Utah and some history of invasions in Utah are both provided, the following information, per the Guidance, is missing in the plan (Much of the info is in Appendix A; a summary, which covers these items, needs to be pulled up to the main part of the plan):

UDWR Modification to Plan: The “Introduction” section has been modified to include “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah.” Information from Appendix A was pulled forward.

- **ANSTF Summary Comment:** Description of pathways by which these species arrived in the State or region.

UDWR Modification to Plan: The “Introduction” has been modified--see subsections “Aquatic Invasive Species That Threaten Utah” and “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” for additional discussion.

- **ANSTF Summary Comment:** Description of how connecting water bodies outside the plan boundaries may introduce new ANS into the affected area.

UDWR Modification to Plan: The “Introduction” has been modified--see “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” for additional discussion.

- **ANSTF Summary Comment:** Discussion of major problems and concerns, such as key introduced species and introduction pathways, lack of scientific knowledge, or limited public knowledge. Plan should also identify all known and suspected ANS concerns and problems, even if no consensus exists about what species warrant attention. Problems should be grouped into 3-5 categories (e.g., high, medium, low).

UDWR Modification to Plan: The “Introduction” has been modified--see “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” for additional discussion.

- **ANSTF Summary Comment:** Any evaluations of the economic and ecological costs and benefits of proposed actions. The Task Force recommends using ecological risk assessment principles to understand and group AIS problems.

UDWR Modification to Plan: The requested information was originally provided in a separate sub-section to the “Introduction” section, “What’s at Stake in Utah--Economic and Ecologic Impacts.” Additional assessment and discussion has been provided to this sub-section as per the guidance document.

The choices for the three priority groups of AIS resulted from discussion and meeting by Utah Aquatic Invasive Species Task Force, who represent the primary stake holders for AIS issues in Utah. Additional input regarding priorities was gleaned from an array (12) of statewide public meetings about the plan. This process allowed for an assessment of the valued biological resources and services potential to be exposed to and affected by AIS as well as physical and chemical stressors, and their pathways. This assessment effort of economic and ecologic cost was a herculean public process, and the plan shows the benefit from doing so. Discussion within the Utah task force and with the public about the difficulties for control of AIS were frank, admitting to the difficulties for AIS control in the wild, costliness and potential impacts on other wildlife resources from control methodology. It was evident amongst the task force and the public that control efforts would require mitigation to restore damaged ecosystems. The plan recognizes that the AIS emphasis amongst the priority groups will likely change overtime, but today and in the immediate near term future (5 year), Dreissenids will drive AIS considerations in Utah. Regardless, the plan is flexible as it should be in order to meet changing circumstances. The watershed aspect of an invasion is especially challenging, since water flows downhill and water is even moved trans-basin via elaborate diversions in Utah. To date, success at stopping AIS, particularly Dreissenids, in the flow of water are without significant success.

- **ANSTF Summary Comment: Existing Authorities and Programs (page 4)** – This section adequately describes the existing Federal and State authorities pertaining to AIS. However, much of the information in the executive summary should be moved to this section instead. There is little information on existing program activities for the state of Utah. In addition:

UDWR Modification to Plan: This section of the Utah plan is titled “Laws and Programs That Guide AIS Management,” which contains two subsections, “National AIS Laws” and “Utah Laws That Relate to AIS.” Some of the information from the Executive Summary was moved to the subsection “Utah Laws That Relate to AIS,” and other

information was moved to the subsection “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” in the “Introduction.”

- **ANSTF Summary Comment:** The identification of gaps in those authorities or implementing regulations is quite brief, consisting of off-hand statements in some of the paragraphs instead of a concise treatment of the subject matter in its own right.

UDWR Modification to Plan: Some additional discussion within the various authorities discussed in the two subsections--“National AIS Laws” and “Utah Laws That Relate to AIS” have been provided.

- **ANSTF Summary Comment:** Although Utah’s Aquatic Invasive Species Interdiction Act is mentioned, the fact that it was just recently passed is not mentioned. The note under number six in the first numbered list in the Executive Summary, regarding the Interdiction Act, should be placed here with perhaps a brief historical summary as well.

UDWR Modification to Plan: Modification of subsection “Utah Laws That Relate to AIS” in the “Laws and Programs That Guide AIS Management” section was made, including a brief historical summary regarding the 2008 Utah Aquatic Invasive Species Interdiction Act.

- **ANSTF Summary Comment:** Suggest amending “2008 Lacey Act” to just “Lacey Act” as the Injurious Wildlife provisions of the Lacey Act are codified separately and were in no way amended with the 2008 amendments mentioned. Can contact Erin for clarification.

UDWR Modification to Plan: Modification of the “National AIS Laws” subsection in the “Laws and Programs That Guide AIS Management” section as it relates to the Lacey Act and Injurious Wildlife has been made in consultation with Erin Williams.

- **Objectives, Strategies, Action and Cost Estimates**

- **ANSTF Summary Comment:** The Objectives and Strategies section outlines the basic objectives and strategies of the plan, however, it does not provide any detail on the actions or provide cost estimates for these actions. The actions are mentioned in the implementation table, but not enough details are provided in the table or in the corresponding section of the plan itself.

UDWR Modification to Plan: Regarding actions, summary statements for individual actions were added to each strategy in the “Objectives and Strategies of Utah’s AIS Management Plan” section. The unique, federal numbering system has been incorporated into both the

Implementation Table (Appendix K) and the “Objectives and Strategies of Utah’s AIS Management Plan” section.

UDWR Modification to Plan: Regarding cost, the subsection “Purpose of Utah’s AIS Management Plan” in the “Utah’s AIS Management Plan” section presents summary expenditures for the fiscal year 2009 budget, including identification of full time equivalencies.

UDWR Modification to Plan: The FY2009 budget, including its exhaustive detail, was added as “Appendix L,” which details cost per employee in the AIS program.

UDWR Response: Equating specific cost to each action is not realistic, since individual actions are simply a small part of specified program personnel’s performance overall contract. Actions are so comingled with each other, that they cannot be separated during practical application. For example, outreach efforts for on-ramp boater education, boat inspection and resultant decontaminations are a very fluid process and separation of the three actions is impractical. This can be said for most of the other aspects of the plan, too. So, costs per action are not useful in any budget analysis Utah Division of Wildlife Resources uses, thus are not provided.

- **ANSTF Summary Comment:** As per the Guidance document, this section should include:

Actions - Each strategy should include Actions that describe the specific work or task that will be performed to implement a strategy. Short statements detailing the work required and organizations involved and their respective roles should be prepared for each action. The expected result should be described.

UDWR Modification to Plan: Modifications to the plan were made. Each action in part facilitates a strategy, where the expected result has already been described. Additionally, the responsible agency(s) for each action has already been specified in Appendix K, the Implementation Table.

- **ANSTF Summary Comment:** Each action, along with associated strategies, objectives and goals should have a title and be listed in the implementation table. For each action, the names of the implementing and funding organizations and their roles should be specified.

UDWR Modification to Plan: Modification to the plan’s Implementation Table (Appendix K) has been made, assuring that each action has a “Description/Title,” including specification of the implementing agency(s); discussion of budget has earlier been provided. Additionally, goal, objectives and strategies were all originally specified in the Implementation Table. The “Objectives and Strategies of Utah’s AIS Management Plan” section has been modified to include individual actions, including a unique numbering system as specified in the guidance.

UDWR Response: UDWR is the primary funding entity, since all partners are donating their AIS funds to UDWR to conduct the work (see Appendix L, FY2009 Budget), although nothing precludes any partner agency or anyone else from unilaterally taking an action supported by the plan. It should be noted that many other agencies and individuals routinely take appropriate AIS management actions based upon the plan, using their own resources and those actions are not documented, although adequately described by the plan. Many thanks to them, since we need all the help we can get!

- **ANSTF Summary Comment:** If necessary, include information about the problems and concerns being addressed to indicate why a particular strategy or set of actions is appropriate.

UDWR Modification to Plan: Done.

- In the event that the authority to undertake the necessary action does not exist, an objective and related strategies and actions may be required to attain the authority to pursue the actions necessary to achieve the goal.

UDWR Response: The multiple partner agencies included in the Utah Aquatic Invasive Species Task Force have sufficient authorities to carryout the Utah Aquatic Invasive Species Management Plan. Unfortunately, all of the agencies are substantially short of available funds to do the work. The limited funds allow a focus on the priority groups of AIS (highest priority is Dreissenid mussels; second highest priority is Eurasian watermilfoil and New Zealand mudsnail; and third priority is all other existing or potential AIS. It is anticipated that priorities will shift across time, and as those shifts occur, attempts to secure sufficient funds by the Utah Aquatic Invasive Species Task Force will occur. The plan includes an action to annually pursue funds.

- The plan should also disclose the consensus reached among organizations to apportion activities and work collaboratively on addressing ANS problems.

UDWR Response: The Utah AIS Management Plan is the consensus of partner organizations about how to tackle AIS issues in Utah. Preparation and implementation of the plan required several meetings (some by key agencies are ongoing), and many discussions resulting in “give & take” by all partners. AIS management is a fluid, ongoing collaboration by multiple agencies. Those ongoing discussions and actions cannot possibly be included in the plan, since they will and should not ever end.

- The roles and responsibilities of each participating organization need to be clearly defined and lead organizations need to be identified.

UDWR Response: Those decisions are documented in the plan (Appendix K, the Implementation Table).

- **ANSTF Summary Comment: Cost Estimates** - The basis for the cost estimates (i.e., salary of two field biologists 1/3 of the year, plus equipment and travel costs) should be presented here. The estimated contribution of each organization and the total cost for each action should be shown in the implementation table.

UDWR Modification to Plan: Appendix L, a detailed budget for fiscal year 2009, is now included as a part of the plan. Each of the 69 personnel's costs is detailed. The plan's actions are incorporated within individual employee's performance management contracts (work plans); those contracts are not a part of the plan.

- **ANSTF Summary Comment: Priorities for Action** – There is a statement that the main focus of the plan is “to deal with *Dreissenid* mussels,” the plan does not list a set of top priorities upon which it will focus its efforts. As per the Guidance document, this section should include:

UDWR Modification to Plan: The plan has been modified to clearly identify the groupings of AIS for prioritization of effort—see discussions in the “Introduction” section’s “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” sub-section.

- **ANSTF Summary Comment:** Priorities for action are established based upon the severity of a problem, the programmatic authority and scientific capability to resolve it, and the cost of the proposed solution.

UDWR Modification to Plan: The plan has been modified; see discussions in the “Introduction” section’s “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” sub-section.

- **ANSTF Summary Comment:** The plan should discuss the rationale for focusing on certain species, pathways, economic and ecological impacts, or other problems/concerns and not others.

UDWR Modification to Plan: The plan has been modified; see discussions in the “Introduction” section’s “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” sub-section.

- **ANSTF Summary Comment:** It should be explicit about which problems and concerns are to be addressed in this iteration of the plan and why they were included at this time while others were not.

UDWR Modification to Plan: The plan has been modified; see discussions in the “Introduction” section’s “Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah” sub-section.

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Complete, detailed comments provided by S.Mangin via email 4-29-09; Brief Discussion same date: L.Dalton & S.Mangin

Mike Ielmini
National Invasive Species Program Coordinator
USDA Forest Service
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We have reviewed the Utah ANS Management Plan and offer our support to the ANSTF to approve it nationally....our Forest Service regional aquatic ecologist located in Ogden, UT was a member of the team to help develop that plan. She had reasonable input throughout the process and fully endorses the effort.

UDWR Modification to Plan: None needed

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Representing: National Association of State Aquaculture Coordinators
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General comment:

This is the most focused, straightforward, common sense, and action oriented plan I have ever read which has been clearly driven by the appearance of dreissenid mussels. Much of the initial information focuses on dreissenid mussels and much of the discussion about the plan generated at the series of public workshops described in Appendix G focuses on the mussels and the clear need to respond to their presence. This dreissenid focus can be problematic in that, over time, the concern about these species may abate and along with it support for the plan. Fortunately, the goals and objectives are not species-specific in focus but are what would be expected of a state ANS plan and Appendix A identifies a broad array of problematical species.

UDWR Modification to Plan: None needed

Specific comments:

The plan actively incorporates and references several ANSTF supported or created products, programs and activities: Protect Your Waters (Stop Aquatic Hitchhikers), Western Regional Panel, and 100th Meridian. They also describe public hatchery implementation of the HACCP approach to prevent ANS distribution. As a suggestion, they may wish to review and implement species management plans created by the Task Force which are appropriate to their state: New Zealand mud snail and Asian carp. They may also benefit from information contained in the regionally oriented purple loosestrife management plan posted to the Task Force website.

UDWR Modification to Plan: The plan incorporates material from the suggested references.

The plan recommends that an on-the-ground rapid response be governed by a National Incident Command System (current terminology is National Incident Management System). They may wish to add an Action/Task to Appendix K which calls for creation, implementation and training support for an aquatic invasive species NIMS program amongst local, state, and federal agency representatives so that roles, responsibilities, and resources (funds, people, supplies, and equipment) are defined prior to an event. The EPA document, *Overview of EPA Authorities for Natural Resource Managers Developing Aquatic Invasive Species Rapid Response and Management Plans*, should be included as a reference to the plan:

http://www.epa.gov/owow/invasive_species/invasives_management/.

UDWR Modification to Plan: **The “Rapid Response Strategy for Development of Control Plans” section has been modified to show the current terminology “National Incident Management System.” Also, a reference to the described EPA document has been included in the plan’s section “Rapid Response Strategy For Development of Control Plans.”**

Tom Mendenhall
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Utah's Mgt Plan reads well and is comprehensive. I have one minor suggestion for improvement including:

Mention of the Federal Land Management and Policy Act of 1976 (43 U.S.C. 1701 et seq) on page 5 - "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use."

UDWR Modification to Plan: The “Other Federal Activity That Relate to AIS Management” sub section of the “National AIS Laws” section has been modified.

Kim Bogenschutz
Representing the Association of Fish and Wildlife Agencies
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I think Utah's ANS Management Plan should be conditionally approved by the ANS Task Force pending comments by ANSTF members. There are two areas that I have minor comments on.

1. The entire plan is very targeted to Dreissena mussels. These species are obviously the priority ANS for Utah at this time; however, I think the plan is too focused on them. For example, current Utah law (Aquatic Invasive Species Act and Aquatic Invasive Species Interdiction) only considers Dreissena species, and no mention is made about including other species within the law.

UDWR Modification to Plan: Utah's Legislature was not interested in all AIS, just the Dreissenid threat; thus, no modification to the plan has been made. That being said the plan has been modified to specifically identify three priority groups of AIS for which the plan will guide an attack.

2. My understanding is that funding estimates should be included in the implementation table. There is no mention of funding (current or future) in the implementation table. Utah has already allocated funds for staff and outreach. An outline of how those funds have been or are proposed to be spent in the future would be helpful.

UDWR Modification to Plan: Appendix L, the fiscal year 2009 budget, has been added to the plan. The budget provides very detailed specificity about personnel and associate costs. Most personnel have assignment to participate in almost every aspect (action) of the plan, but those actions are so comingled that a cost breakout per action would be a mere guess.

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Note: The comments below are based on the [ANSTF Guidance for State and Interstate Aquatic Nuisance Species Management Plans](http://www.anstaskforce.gov/stateplans.php) which is available on the ANSTF web site (<http://www.anstaskforce.gov/stateplans.php>). In the comments below, the term "Guidance: refers to this document.

General Comments

- The information contained in the Utah AIS Management Plan is good solid information that serves as an excellent foundation for an ANSTF approved State ANS Management Plan. However, the plan is lacking many of the required components listed in the Guidance. See specific comments below for more information.
UDWR Response: No response needed.

The Rapid Response Strategy is an excellent section of the plan that should serve the state of Utah in its effort to prevent new introductions and manage the spread of existing established AIS.

UDWR Response: No response needed.

The document is not divided into the specific sections detailed in the guidance. Although this is not a strict requirement of the plan, it does make the plan much easier to read and renders it easier for the reader to find the specific sections they may be looking for.

UDWR Response: Response provided earlier.

- Some of the appendices require further explanation (appendix C) and/or some re-formatting to make them more user-friendly (appendices C and G).

UDWR Response: Appendix C was modified as appropriate. Appendix G is an exhaustive log of activity, including comments and responses, associated with multiple public reviews of the plan. It seems to be sufficient for its purpose and has not been modified.

Specific Comments

- **Executive Summary** – The executive summary is not a summary of the AIS plan at all. Instead, it seems to contain information that should be in the introduction (history of plan development and current and recent activities of the UDWR) and in the section on problem definitions and ranking (overall AIS issue and history of invasions). The executive summary is supposed to give the reader an overview of the entire AIS Management Plan and the existing text does not do so. The executive summary does not contain any of the items listed in the Guidance, which states:

- “The executive summary should briefly summarize each management plan section and its major recommendations. The purpose of the plan, the background on AIS problems, the authorities and current programs of involved organizations, and the central focus should be mentioned. In addition, present and proposed management actions to overcome problems along with program goals and objectives should be succinctly outlined. Finally, a summary of the implementation table (to include funding required for implementation in the initial and future years by objectives and major strategies) and program monitoring and evaluation plans should be provided.”

UDWR Response: Response provided earlier.

- **Introduction** – The introduction of the plan has limited information on the AIS problem in Utah, some of the impacts, and the history of plan development. However, it does not include the following items listed in the Guidance:
 - Geographic scope of Plan, including a map and discussion of the geographic area showing water bodies, drainage basins, and major structural features.
 - An appendix detailing the names, positions and affiliations of members of any steering committees or work groups involved in preparing this and any precursor plans.

- Note: The plan does contain contact information for UDWR employees involved in AIS work, but I am assuming that this is different than the Utah Aquatic Invasive Species Task Force.
 - Discussion of any scientific review and/or public comment on the plan as well as a summary of specific comments and any indication of how those comments and reactions were addressed in the final plan.
 - Note: The plan does contain an appendix with what seem to detailed meeting summaries of the public comments received and answers given during various meetings, but this is different than providing a summary in the main report and providing some information on how the comments may have shaped the development of the plan. In addition, the appendix is not well-formatted and is difficult to read. It would benefit from some formatting (bolding, blank lines between questions and answers) to differentiate between comments and answers.
 - An explanation of the connection of the ANS plan to other plans produced by entities with overlapping jurisdictions or covering shared waters.

UDWR Response: Response provided earlier.

- **Problem Definition and Ranking** – The plan doesn't have a specific section that covers this topic. Although some of the overall history of AIS problems in Utah and some history of invasions in Utah are both provided, the following information from the Guidance is missing:
 - An estimation of the number of species or other taxa in various classes, in the geographic area.
 - Description of pathways by which these species arrived in the State or region.
 - Description of how connecting water bodies outside the plan boundaries may introduce new ANS into the affected area.
 - Discussion of major problems and concerns, such as key introduced species and introduction pathways, lack of scientific knowledge, or limited public knowledge. Plan should also identify all known and suspected ANS concerns and problems, even if no consensus exists about what species warrant attention.
 - The plan should acknowledge that problems and concerns may change over time. If problems and concerns are to be further described in the context of individual objectives, this section can provide a brief overview and summary discussion.
 - Problems should be grouped into 3-5 categories (e.g., high, medium, low).
 - Discussion of:
 - Cryptogenic species (i.e., those which have not been determined as clearly native or nonindigenous), including, to the extent possible, probable pathway.

- Species that have not yet been identified in Utah’s waters, but have the potential of finding their way into the Stat’s waters and the pathways of concern.
 - Any evaluations of the economic and ecological costs and benefits of proposed actions. The Task Force recommends using ecological risk assessment principles to understand and group ANS problems.

UDWR Response: Response provided earlier.

- **Goals** – The goal section of the Utah plan consists of a single sentence. The goal itself is acceptable and reflects the intent of the Non-indigenous Aquatic Nuisance Prevention and Control Act. However, the single sentence does not provide enough detail on the overall goal of the plan. According to the Guidance: “The goals describe what the designated planners want to accomplish and when. If achieved, goals should clearly result in resolution of the range of problems and concerns identified and address the intent of the Act. One or more goals should be defined. They should be fairly broad, far-reaching, long-term in scope and should require the implementers to stretch their resources if they are to be achieved. The goals should contribute to the accomplishment of Fish and Wildlife Service, NOAA Fisheries, or other relevant Federal program long-term outcome goals.”
- UDWR Response:** Some additional discussion has been provided in the “goal” segment of the plan, however it is concise and exacting in time. There is no doubt that such a lofty goal will stretch the resources of the Utah Aquatic Invasive Species Task Force.

UDWR Response: Response provided earlier.

- **Existing Authorities and Programs (page 4)** – This section adequately describes the existing Federal and State authorities pertaining to AIS. However, the following information from the Guidance is missing:
 - There is little information on existing program activities. Much of the information in the executive summary should go here instead. In addition:
 - The identification of gaps in those authorities or implementing regulations is quite brief, consisting of off-hand statements in some of the paragraphs instead of a concise treatment of the subject matter in it sown right.
 - Although Utah’s Aquatic Invasive Species Interdiction Act is mentioned in this section, the fact that it was just recently passed is not mentioned. The note under number six in the first numbered list in the Executive Summary, regarding the Interdiction Act, should be placed here as well with perhaps a brief historical summary as well.

UDWR Response: Response provided earlier.

- **Objectives, Strategies Action and Cost Estimates** – The Objectives and Strategies section of the Utah plan outlines the basic objectives and strategies of the plan, however, it fails to provide any detail on the actions or provide cost estimates for these actions. The actions are mentioned in the implementation

table, but enough details are not provided in the table or in the corresponding section of the plan itself. As per the Guidance document this section should include:

- **Actions** - Each strategy should include Actions that describe the specific work or task that will be performed to implement a strategy. Short statements detailing the work required and organizations involved and their respective roles should be prepared for each action. The expected result should be described.
 - Each action, along with associated strategies, objectives and goals should have a title and be listed in the implementation table. For each action, the names of the implementing and funding organizations and their roles should be specified.
 - If necessary, include information about the problems and concerns being addressed to indicate why a particular strategy or set of actions is appropriate.
 - In the event that the authority to undertake the necessary action does not exist, an objective and related strategies and actions may be required to attain the authority to pursue the actions necessary to achieve the goal.
 - The plan should also disclose the consensus reached among organizations to apportion activities and work collaboratively on addressing ANS problems.
 - The roles and responsibilities of each participating organization need to be clearly defined and lead organizations need to be identified.
- **Cost Estimates** - The basis for the cost estimates (i.e., salary of two field biologists 1/3 of the year, plus equipment and travel costs) should be presented here. The estimated contribution of each organization and the total cost for each action should be shown in the implementation table.

UDWR Response: Response to all of these questions were provided earlier.

- **Priorities for Action** – With the exception of the Utah plan’s statement that the main thrust of the plan is “to deal with *Dreissenid* mussels, the plan does not actually list a set of top priorities upon which it will focus its efforts. As per the Guidance document this section should include:
 - Priorities for action are established based upon the severity of a problem, the programmatic authority and scientific capability to resolve it, and the cost of the proposed solution.
 - The plan should discuss the rationale for focusing on certain species, pathways, economic and ecological impacts, or other problems/concerns and not others.
 - It should be explicit about which problems and concerns are to be addressed in this iteration of the plan and why they were included at this time while others were not.

UDWR Response: Response provided earlier.

- **Implementation Table (Appendix K)** – The implementation table in appendix J is missing the following elements, taken straight from the Guidance:

- **Action-Identification Number** - The four-digit numbering scheme identifies the goal, objective and strategy associated with each action.
UDWR Response: Done.
- **Cooperating Organization** - Other organizations supporting or involved in an action should be indicated with dollar and FTE (full time equivalent positions) contributions shown in the ensuing columns.
UDWR Response: Appendix K, the implementation table, shows cooperating agencies, and Appendix L, the fiscal year 2009 budget, shows the source and amount of funds being put into the plan and the areas on-the-ground where the work will occur. The budget has a stable level of \$1.4 million as ongoing general funds from Utah’s Legislature. There is never a guarantee about how long the funding commitment will last, since general funds are appropriated annually.

Cooperator funds show a wide range in differing amounts between years--\$0 in FY2008, \$80,000 in FY2009 & 160,000 indicated as forthcoming in FY2010. To date there has been no ability by the cooperators to identify a long-term source of funds directed upon AIS management from their agencies. The U.S. Forest Service is making plans (contract) for funds that stretch 3 years into the future. No other cooperator has taken such a bold step.

- **Funding/Staff** - The remaining columns display funding and staffing required to implement each action by fiscal year. Recent efforts to carry out the action, if any, for the past, current, and budget years should be included as well as planned efforts over the next two to five years. Sequential actions can be displayed. Priorities can also be shown by the fact that some unrelated actions start in later years of the implementation table than others.
UDWR Response: Response provided earlier.
- **\$000/ FTEs** - Amount of funding for recent and planned efforts and the estimated contribution of each organization toward each action should be shown. Funding should be reported to the nearest thousand dollars and staffing to the nearest one-tenth FTE. FTE estimates are valuable indicators of level of effort needed and cost indicators, but are not mandatory. If shown, indicate in the narrative description whether the FTEs are paid, or are volunteers. Dollar cost estimates should include the salaries and estimated overhead costs of employees. For volunteers, include the value of the in-kind services provided.
UDWR Response: Response provided earlier.

- **Future Needs** - Annual operating and maintenance costs of a continuing program after the planning period, if any, can also be displayed.

UDWR Response: The plan will be re-done every five years, which will include a re-assessment of budget and potential funding sources. This intent is stated within the plan. It is also a requirement of the Utah Wildlife Board to revisit any plan it approves on a five year rotation.

- **Program Monitoring and Evaluation (Page 15)** – The Utah plan handles program monitoring and evaluation through a Monitoring and Evaluation Strategy in which UDWR will “Keep track of invasions of AIS or spread of existing AIS” and prepare annual reports summarizing AIS work in Utah. In appendix K of the plan, there are 4 actions related to monitoring and evaluation. Two involve monitoring for AIS, one involves evaluating the effectiveness of the Utah plan, and one involves preparation of an annual report. However, for these actions, it is unclear exactly what the measurable performance measure will be and what the thresholds for success versus failure will be. The Guidance document includes the following information on program monitoring and evaluation, most of which is not covered in the Utah plan:

- “Include in this discussion the performance measures that will be used to assess the effectiveness of management actions. For instance, on an annual basis this might include:
 - Whether or not objectives are achieved;
 - Rate of spread along a river reach or coastline;
 - Change in total acreage of habitat occupied by the ANS or the displaced native species;
 - Changes in abundance of an invader and directly or indirectly impacted species;
 - Changes to Federal and State T&E and extinct species lists due to ANS.

UDWR Response: Modification to the plan segment “Monitoring and Evaluation Strategy (6)” has been made.

- It is recognized that unforeseen factors may impact the progress of remedying a problem and this would be evident through program monitoring and evaluation. The discussion should address how other physical, chemical and biological stressors are impacting the effectiveness of management actions and the success of objectives.

UDWR Response: Modification to the plan segment “Monitoring and Evaluation Strategy (6)” has been made.

- Describe the process that will be used to accumulate information about results (outcomes and outputs), compare them against planned results, evaluate effectiveness of efforts, and provide feedback. Monitoring and evaluation actions should be included as multiple line items in the Implementation Table.”

UDWR Response: Modification to the plan segment “Monitoring and Evaluation Strategy (6)” has been made. Appendix K, the Implementation Table has been modified, but seems to have sufficient numbers of actions to facilitate accomplishment of the Monitoring and Evaluation Strategy.

Susan Mangin
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Executive Summary:

- Should provide a summary of each plan section or major recommendations, legal authorities, summary of implementation table, program monitoring and evaluation.
- Does give some background of ANS problem and partners.

Introduction:

- Identify the gaps in authorities and efforts to amend legislation that has shortcomings.
- Does describe certain ANS problems.
- Does not address the plan's geographic scope, process for developing the plan, who prepared it, public involvement, associated plans, scientific review, public input.
- Although other efforts are described, there is no clear connection with these or to other plans.

Utah's AIS Management Plan/Utah's AIS Rapid Response Strategy (Problem Definition & Ranking; Goals; Existing Authorities and Programs; Objectives, Strategies, Actions & Cost Estimate):

- Could include a more in depth discussion of ANS issues and pathways that were cited in the introduction.
- Page 14 - Suggest that Plan Development and Strategy and Public Review Strategy language be moved to the introduction.
- Strategies within the Utah's AIS Management Plan should be broken down to actions (or tasks as in the Utah's AIS Rapid Response Strategy) that will be taken to support the strategy.
- Actions have not been prioritized.
- Monitoring and Evaluation Strategy should be expanded to include performance measures to assess the effectiveness of management actions.

Implementation Table:

- Suggest including cooperating organization, funding/staff, and FTEs.

UDWR Response: Response to all of Susan Mangin’s comments were provided earlier.

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Larry Dalton, Utah Division of Wildlife Resources (UDWR) presented the Utah Aquatic Invasive Species Plan to the Aquatic Nuisance Species Task Force (ANSTF) during their May 21, 2009 meeting in Bozeman, Montana.

ANSTF Comment: A member agency in the audience asked how many seasonal boat inspector technicians UDWR used.

UDWR Response: Larry Dalton, UDWR, responded that the FY09 field season started with 35, but contribution of partner funds have enhanced the budget, allowing an increase to 55 boat inspector technicians this spring.

UDWR Modification to Plan: Appendix L, the fiscal year 2009 budget, has been added to the plan. It shows the details of budget as it relates to the 69 personnel involved with implementing the plan under Utah Division of Wildlife Resources' stewardship.

ANSTF Comment: Tom Mendenhall, BLM member on the ANSTF, asked if the plan addressed fire suppression and avoidance of inadvertent AIS transfer.

UDWR Response: Larry Dalton, UDWR, responded that fire suppression was not addressed due to the very good AIS policies and protocols of the federal and state land management agencies and the routine communication between UDWR and those agencies about fire suppression and avoidance of inadvertent transfer of AIS.

UDWR Modification to Plan: The "Introduction" section has been modified to include statements about fire suppression--see "Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah" subsection.

ANSTF Comment: A member agency in the audience asked about waters affected with Dreissenid mussels in Utah.

UDWR Response: Larry Dalton, UDWR, responded that Electric Lake in Emery County is affected with zebra mussel and Red Fleet Reservoir in Uintah County is affected with quagga musse. In both cases only veligers have been detected. Larry Dalton also explained UDWR's protocol for determining that a water is affected and UDWR's classification system for waters--(1) "not tested or negative;" (2) "inconclusive results"--finding of veligers by microscopy, but not confirmed by two independent PCR methods; (3) "detected"--finding of veligers by microscopy and confirmed by two independent PCR methods, but no juvenile or adults present; (4) "infested"--juvenile or adults present, species preliminary confirmation by two experts, followed by two independent PCR methods for verification.

UDWR Modification to Plan: The "Introduction" section's "Problem Definition and Ranking--Why Manage Aquatic Invasive Species in Utah" subsection was modified to include the UDWR's protocol and classification system for determining if a water is affected by Dreissenid mussels.

ANSTF Action: The ANSTF chair asked for a recommendation about approval of the Utah Aquatic Invasive Species Management Plan. A recommendation for conditional approval based upon UDWR responding to the ANSTF written review was made, seconded and passed.

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The final public review of the plan occurred at the Aquatic Nuisance Species Task Force (ANSTF) meeting, May 21, 2009 in Bozeman, Montana.

During the public comment period of the ANSTF's May 21, 2009 meeting, no public comment regarding the Utah Aquatic Invasive Species Management plan was voiced.