

Rapid Response Plan Following Detection of Dreissenid Mussels in Alcova Reservoir, Wyoming

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SUMMARY

Alcova Reservoir is an impoundment of the North Platte River located approximately 30 miles southwest of Casper in Natrona County, Wyoming. The United States Bureau of Reclamation owns and operates the reservoir for the purposes of irrigation diversion and hydroelectric power generation. The Natrona County Parks Department manages large portions of the land surrounding Alcova Reservoir for recreational activities such as camping, hiking, and boating.

Alcova Reservoir is 7.49 miles long and has a maximum width of 2.24 miles at full pool. Full pool volume of Alcova Reservoir is 184,405 acre-feet, with only the top 30,606 acre-feet (equivalent to 10 vertical feet) being available for irrigation release. Unlike adjacent reservoirs, which fluctuate seasonally with water input and downstream demand, Alcova Reservoir remains at full pool volume from 1 May to 1 October.

The typical boating season at Alcova Reservoir spans from early April to late October. The months of June to August have been the busiest in past years. Inspection data collected at the Alcova Reservoir check station from May 2018 to November 2019 (N = 1,385) revealed that 95% of all inspected boats belonged to Wyoming residents while just 5% of boats belonged to non-residents. Just 0.6% of all inspections were classified as high-risk, two of which required decontamination. The majority of inspected boats launching on Alcova Reservoir in the 2018 – 2019 seasons (30%) were inboard/outboard driven. Outboard fishing boats accounted for 26% of inspected watercraft at Alcova, followed by personal watercraft (19%), non-motorized watercraft (18%), inboard wake or ski boats (5%), and jet boats (2%).

Despite its small size relative to other reservoirs on the North Platte River, there are eight boat ramps at Alcova Reservoir. Two boat ramps are exclusive to private clubs or facilities while the remaining six boats ramps are located on lands managed by Natrona County Parks Department for the benefit of public use. Private boat ramps include one ramp (each) at the Casper Boat Club and Casper Water Ski Club. Public boat ramps include two adjacent ramps at Black Beach and one ramp (each) at the Alcova Lakeside Marina, Cottonwood, Fremont, and Okie Beach. Shore launching of motorized boats is uncommon at Alcova Reservoir due to limited road access, hazardous shoreline terrain, and dense vegetation.

The initial response if dreissenid mussels are detected at Alcova Reservoir is to minimize the risk of spread to other waters while awaiting follow-up sampling results. To prevent the spread of mussels, a mandatory exit inspection of all watercraft will occur at Alcova Reservoir. During the initial six weeks, regional personnel will staff a check station located on Lakeshore Drive near the intersection with WY Hwy 220. The Lakeshore Drive check station is strategically located to intercept all watercraft egressing from the northwestern shoreline of the reservoir. Shore launching and ramp use along the southeastern shoreline (e.g., Black Beach

and Cottonwood campgrounds) will be prohibited. Retrieval of watercraft from the reservoir would only be permissible from 8 AM through ½ hour after sunset. The reservoir will be closed to all watercraft use from 1 November to 31 March due to very low boat use.

Following the initial six week period, long-term plans will be initiated to continue efforts for minimizing spread to other waterbodies. While boat ramp use and shore launching will remain prohibited at Cottonwood campground, ramps at Black Beach Campground will open Thursday through Sunday, as well as holidays, to alleviate burden on the Lakeshore Drive check station. The Lakeshore Drive check station pull out will be enlarged and paved and a new gravel check station pull out will be created at Black Beach Road. Throughout the boating season, watercraft launching will be allowed at any time, but retrieval of boats from the reservoir will be restricted to 8 AM until ½ hour after sunset. Seven technicians and one crew lead will be hired to conduct inspections and decontaminations. Additional equipment would be needed, including six decontamination units, two office trailers and a camp trailer, equipment to haul water to the check stations, signs and additional supplies. A local boater program will also be initiated to alleviate exit decontaminations of watercraft that are not used at other locations, which constitute the majority of boaters at Alcova Reservoir. Costs for the first year response, which includes equipment purchase and check station construction, is \$589,000. Additional year operating budgets would be approximately \$266,000 per year. If the reservoir proceeds to Infested Status right away, the cost of the response for the first year would be \$655,000, which includes additional equipment and personnel due to the increased number of decontaminations. The cost to operate an Infested Status response beyond the initial investment in equipment and infrastructure is approximately \$260,000 per year.

INTRODUCTION

Zebra (*Dreissena polymorpha*) and quagga (*Dreissena bugensis*) mussels are aquatic invasive species (AIS) that have far-reaching negative impacts on natural resources, water infrastructure, recreation, and can be attributed to significant economic loss. Zebra mussels are native to the Black and Caspian seas and were first discovered in the Great Lakes in 1988. Quagga mussels are native to the Dnieper River Drainage in Ukraine and were first found in the Great Lakes in 1989. Since their initial introductions, these species have spread across most of the United States, and have been detected in Wyoming's neighboring states of Nebraska, South Dakota, Montana, Colorado, and Utah. The close proximity of zebra and quagga mussels to Wyoming elevates the threat of introduction and increases the need for plans to contain them if detected.

Currently, Wyoming's AIS program is focused on outreach, watercraft inspection and monitoring, with the overall goal of keeping invasive species such as zebra and quagga mussels out of the state. Wyoming law requires inspection of all watercraft entering the state and the Wyoming Game and Fish Department (WGFD) currently maintains 14 inspection stations (primarily at Department of Transportation Ports of Entry) that intercept incoming watercraft and inspect them for the presence of AIS. The WGFD AIS program also conducts inspections at various waters by roving personnel and at regional offices. Annual monitoring for a variety of AIS, including zebra and quagga mussels, is conducted on priority waters throughout Wyoming and an outreach program is in place to educate the public about the threats of AIS and what they can do to prevent their spread.

If zebra or quagga mussels are detected in a Wyoming water, immediate action will be necessary to prevent their spread to other waters. This rapid response plan is a water-specific plan that outlines the steps needed to quickly mobilize personnel and equipment to provide exit inspections and, if necessary, decontaminations of all boats leaving the affected water. This plan will be initiated when zebra or quagga mussel veligers (larvae) or adults are detected in a sample from Alcova Reservoir and are verified by independent experts and genetic analysis. At that point, the Reservoir will enter Short-term Suspect Status. This coincides with the period of time necessary to conduct additional sampling and testing necessary to verify whether zebra or quagga mussels are present (up to six weeks). If follow-up sampling does not detect zebra or quagga mussels, the water will enter Long-term Suspect Status and monthly monitoring will be initiated. If zebra or quagga mussels are not detected for three years, the water will once again be considered negative. Conversely, if two sampling events within a 12-month period detect zebra or quagga mussels, the water will enter Positive Status and will not be considered negative again unless mussels are not detected in monthly monitoring for five years. Finally, a water will enter Infested Status when evidence shows a recruiting and reproducing population of zebra or quagga mussels is established. At this point, eradication of mussels is highly unlikely and containment efforts will be necessary for the foreseeable future.

This plan provides guidance for the initial response to detection of dreissenid mussels at each of these four status levels and is intended to be implemented quickly and act as the guiding document for initial decision making following detection. It is not intended as a long-term containment plan, but will outline the action necessary to provide short-term containment while a long-term containment and monitoring plan is developed.

CONFIRMATION OF DREISSENID MUSSELS

Sampling of Wyoming waters is conducted annually in accordance with the “Wyoming Game and Fish Department Aquatic Invasive Species Sampling and Monitoring Manual” (WGFD 2019). High priority waters are sampled twice per season (June or July, and September or October), and lower priority waters are sampled once per season in September or October. To determine whether Wyoming waters contain evidence of AIS, specimens of adult or juvenile crayfish, snails, mollusks, plants, etc. are collected during routine sampling and any specimen suspected of being AIS must be positively identified by at least two independent experts. Only samples collected by the WGFD may be used to change the classification of a water. Samples collected by a third party will be used as a notification of a possible detection, which must be confirmed by a WGFD sample.

To meet the minimum criteria for detection of dreissenid mussels, an adult or juvenile specimen must be verified by two independent experts and confirmed by DNA, or a veliger (larval form) must be identified and verified using cross-polarized light microscopy by two independent experts and confirmed by DNA analysis (PCR and gene sequencing).

Based on sampling results, waters are given certain classifications related to their dreissenid mussel status:

A water body that has not been sampled for aquatic invasive species is classified as *Unknown/Not Tested*. A water body at which sampling is ongoing and nothing has been detected (or nothing has been detected within the time frames for de-listing) is classified as *Negative*. Currently, all waters in Wyoming are classified as either *Unknown/Not Tested*, or *Negative*.

A water body classified as *Inconclusive* has not met the minimum criteria for detection but evidence of dreissenids has been documented. For example, evidence of a mussel veliger is detected via microscopy but cannot be confirmed by DNA analysis. This is a temporary classification and additional sampling of this water will be conducted to determine whether the water body is classified as negative (no detections in subsequent sample) or suspect (verified detection in subsequent sample).

A water body classified as *Suspect* indicates a water at which one sample has been verified by visual confirmation (visual identification of adult or microscopy identification of veliger) and this sample was confirmed as dreissenid by DNA analysis (PCR and gene sequencing). In this scenario, additional sampling will be conducted to determine whether another sample taken within 12 months detects evidence of dreissenids. If a subsequent sample does detect dreissenids, this water will then be classified as *Positive*.

A water body classified as *Positive* indicates a water at which two or more sampling events within a 12-month period meet the minimum criteria for detection. For example, samples from two different sampling events are verified by both visual identification (including microscopy) and DNA confirmation (PCR and gene sequencing).

In many cases, a water classified as *Positive* will ultimately become *Infested* which is a water body with an established (recruiting and reproducing) population of dreissenid mussels. For example, lakes Mead and Powell are considered infested waters as they have large populations of reproducing dreissenids and mussels are readily evident on the shoreline and submerged materials such as docks, buoys, etc.

In some instances, the classification of a water body can be downgraded over time. The exact reasons why dreissenids are detected at a water once, then not again in subsequent sampling, or are detected in a water classified as *Positive* but never establish a population, remains largely unknown.

A water body initially classified as *Inconclusive* can be de-listed to *Negative* status after one year of negative testing results including at least one sample taken in the same month of subsequent year as the initial positive sample (to account for seasonal environment variability). The time frame for de-listing a water body extends from there with a water body initially classified as *Suspect* requiring three years of negative testing to re-classify to *Negative*, a *Positive* water body requiring five years of negative testing to re-classify to *Negative*, and an *Infested* water body requiring a successful eradication or extirpation event and a minimum of five years of negative testing results post-eradication event to re-classify to *Negative*.

WATER DESCRIPTION

Alcova Reservoir is an impoundment of the North Platte River located approximately 30 miles southwest of Casper in Natrona County, Wyoming. Travel to the reservoir occurs from the north via Wyoming Highway 220, with southeastern shoreline access from County Road 407 (Kortes Road) and northwestern shoreline access from County Road 406 (Lakeshore Drive). The United States Bureau of Reclamation (USBOR) owns and operates the reservoir for the purposes of irrigation diversion to supply the Casper-Alcova Irrigation District (CAID) and hydroelectric power generation. Most of the land surrounding Alcova Reservoir is owned by the USBOR; however, Natrona County Parks Department (NCPD) manages large portions for recreational activities such as camping, hiking, and boating.

In addition to the USBOR, NCPD, and CAID, key private stakeholders at Alcova Reservoir include the Alcova Resort and Lakeside Marina (Alcova Marina), the Casper Boat Club, the Casper Water Ski Club, and Sloanes General Store. With the exception of the latter, these stakeholders are all located on Lakeshore Drive along the southwestern shoreline of Alcova Reservoir between Spring Creek and the western edge of Fremont Canyon. Furthermore, a large number of private residences have been built on USBOR property – through a private lease agreement plan – in the northern corner of the reservoir that are collectively managed by NCPD through the Alcova Lake Cabin Owners Association (ALCOA). Nearly all of the Alcova cabins with shoreline access have at least one dock or mooring structure, while ramp structures are largely precluded by the steep gradient of the hillside and rocky terrain.

The primary non-boating purposes of Alcova Reservoir are for agricultural water supply and hydroelectric power generation. Distribution of irrigation water occurs on the north side of the North Platte River between Alcova Dam and Casper via the Casper Canal. This irrigation diversion supplies 515 users with agricultural water to support 24,250-acres of irrigated land. The Casper Canal system commences at a headgate located in the northernmost corner of the reservoir and conveys water through 59-miles of primary canal, 190-miles of lateral canals, and 41-miles of drain lines. Hydroelectric power generation at Alcova occurs via a 165-foot hydraulic drop from the reservoir to the North Platte River. The hydroelectric plant at Alcova Dam was constructed in 1955 and consists of two 18,000-kilowatt vertical-shaft generators driven by a 26,500-horsepower turbine. This allows for an annual production of 88.8 million kilowatt-hours of electricity for transmission service to central Wyoming, western Nebraska, and northern Colorado.

Completed in 1938, Alcova Dam is a zoned earthfill structure that is 265 feet tall and 763 feet long. The subsequent reservoir impoundment is 7.49 miles long and has a maximum width of 2.24 miles at full pool. Alcova Reservoir has approximately 35 miles of shoreline (roughly 9 miles of which are located in Fremont Canyon) and spans 2,340 acres. Full pool volume of Alcova Reservoir is 184,405 acre-feet, with only the top 30,606 acre-feet (equivalent to 10 vertical feet) being available for irrigation release. Unlike adjacent reservoirs, which fluctuate seasonally with water input and downstream demand, Alcova Reservoir is consistently operated at full pool volume from 1 May to 1 October; water levels are reduced by 10 feet every fall to reduce freeze damage to the Casper Canal head gate. When full, Alcova has a water surface elevation of 5,500 feet with a mean reservoir depth of 79 feet and a maximum depth of 180 feet. The surrounding landscape at Alcova Reservoir primarily consists of rocky outcrops, juniper, upland sagebrush, Russian olive, cottonwood, and some wetland areas.

The boating season at Alcova Reservoir spans from early April to late October or early November, depending on annual weather conditions. Typical of many reservoirs in the Casper region, boater type varies by season in the form of early use by mostly angling boats, a mix of angling and recreational boats through late June, a predominance of recreational boats from mid-July to early September, and a return to angling boat prevalence until ice-up. The months of June to August were consistently busiest in both 2018 and 2019. Daily inspection counts peaked at 73 boats in early June of 2018 and 78 boats in early August 2019. Inspection data collected at the Alcova Reservoir check station from May 2018 to November 2019 (N = 1,385) revealed that 95% of all inspected boats belonged to Wyoming residents while just 5% of boats belonged to non-residents. Among all interviewed non-resident boaters (N = 68), most were from Colorado (55.9%) and Nebraska (7.4%) with minority representation from an additional 13 states. Just 0.6% of all inspections were classified as high-risk, two of which required decontamination. The

majority of inspected boats launching on Alcova Reservoir in the 2018 – 2019 seasons (30%) were inboard/outboard driven. Outboard fishing boats accounted for 26% of inspected watercraft at Alcova, followed by personal watercraft (19%), non-motorized watercraft (18%), inboard wake or ski boats (5%), and jet boats (2%).

Despite its small size relative to other reservoirs on the North Platte River, there are eight boat ramps at Alcova Reservoir (Figure 1). Two boat ramps are exclusive to private clubs or facilities while the remaining six boats ramps are located on NCPD-managed lands for the benefit of public use. Private boat ramps include one ramp (each) at the Casper Boat Club and Casper Water Ski Club. Public boat ramps include two adjacent ramps at Black Beach and one ramp (each) at the Alcova Lakeside Marina, Cottonwood, Fremont, and Okie Beach. Shore launching of motorized boats is uncommon at Alcova Reservoir due to limited road access, hazardous shoreline terrain, and dense vegetation. The exception to this may be at certain campsites in the Westside Campground, which is located on Lakeshore Drive near the Fremont Canyon boat ramp. Non-motorized watercraft (e.g., canoes, kayaks, etc.) are frequently launched from campsites and water-adjacent vehicular access points. There are three main entrances to Alcova Reservoir. The eastern entrances include Black Beach and Cottonwood Beach roads, both of which are only accessible from the Kortess Road (County Road 407). Lakeshore Drive (County Road 406) controls the sole public access to the northwest side of the reservoir. One improved gravel road (Lake Ridge Drive) does exist between Wyoming Highway 220 and Lakeshore Drive (entering near the Casper Boat Club), however its designation as a private easement road through the Lake Ridge Estates subdivision most likely limits its use by boaters on Alcova Reservoir.

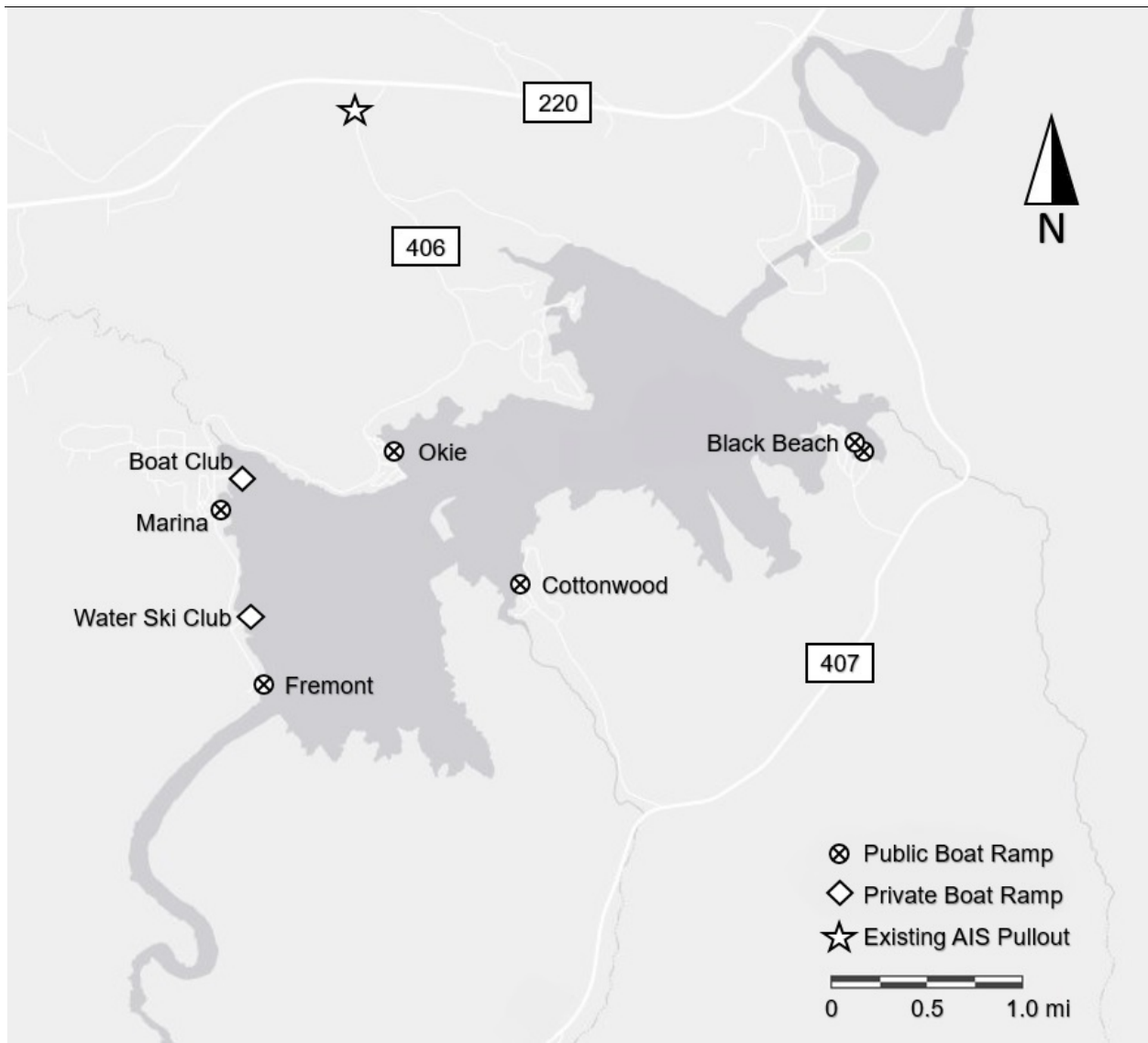


FIGURE 1. Map of Alcova Reservoir including the location of primary access roads, boat ramps (public and private), and the existing AIS check station pullout.

RAPID RESPONSE – SHORT-TERM SUSPECT STATUS

In the event that a sample from Alcova Reservoir is confirmed positive for dreissenid mussels, the reservoir will be considered Short-term Suspect (defined above). After the initial detection, follow-up sampling will occur and results will take approximately six weeks to be reported. During that time, it will be necessary to minimize the risk of spreading mussels to other waters. Within one week, resources will need to be in place to perform required clean, drain, dry exit inspections of all boats leaving the reservoir and decontamination of undrainable areas, such as ballast tanks and motors. All watercraft leaving Alcova Reservoir will receive a red seal and seal receipt to verify the watercraft received an exit inspection. Red seals will designate use on a suspect, positive or infested water versus the brown seal currently used after a Wyoming AIS inspection.

At Short-term Suspect Status, there will not be time to hire personnel or purchase equipment. Therefore, the initial response will rely on existing personnel and equipment. Immediately after initial detection, job announcements and requisitions will be prepared so personnel can be hired and equipment can be purchased as quickly as possible once follow-up results are available.

Communication Plan

Upon the initial detection of dreissenid mussels, WGFD's AIS Coordinator will begin the administrative communication chain outlined in the WGFD AIS Administrative Rapid Response Plan (WGFD 2020). Initial contacts in the administrative communication chain include the AIS Coordinator contacting the Communications Director, the Regional Fisheries Supervisor, and the Fish Division Chief, who contacts the WGFD Director. On the regional level, the Casper Regional Fisheries Supervisor will begin the regional communication chain to disseminate information about the detection to internal and external partners and stakeholders (Figure 2). Internal WGFD contacts include Regional Fish Division personnel, the Regional Wildlife Supervisor, the Regional Habitat and Access Supervisor and the Regional I&E Specialist. The Regional Wildlife Supervisor will then contact the West Casper Sr. Game Warden, Casper wardens, and local Wildlife and Terrestrial Habitat biologists. The Regional Habitat and Access Supervisor will contact appropriate Habitat and Access biologists.

The Casper Regional Fisheries Supervisor or biologists will also contact key stakeholders, including the Alcova-Casper Irrigation District, Alcova Cabin Owners Association, Casper Boat Club, Casper Water Ski Club, Natrona County Parks Department, Natrona County Commissioners, and the U.S. Bureau of Reclamation. They will also contact local business owners, including the Alcova Lakeside Marina and Sloanes General Store. Boater contacts made through the Wyoming AIS inspection stations will be used as a primary notification and education outlet during this time period. The AIS Coordinator will also contact and coordinate with WGFD communication personnel, including Regional I&E (see Public Outreach, below), and regional stakeholders (Western Regional Panel, federal partners, etc.).

Key information to convey to internal and external partners and stakeholders should include the name of the affected water, which species was collected, who collected the sample, where the sample was collected, which agency/expert analyzed the sample, any relevant information about the sample, who to contact for more information, a brief description of containment protocols that will be put in place, and any critical changes for the public. Every effort should be made to quickly contact all partners and stakeholders prior to beginning public outreach efforts. The regional fisheries supervisor will attempt to make all contacts within 24 hours of detection and will contact the Communications Director once enough contacts have been made to initiate outreach efforts.

Contact information for key individuals can be found in Appendix A.

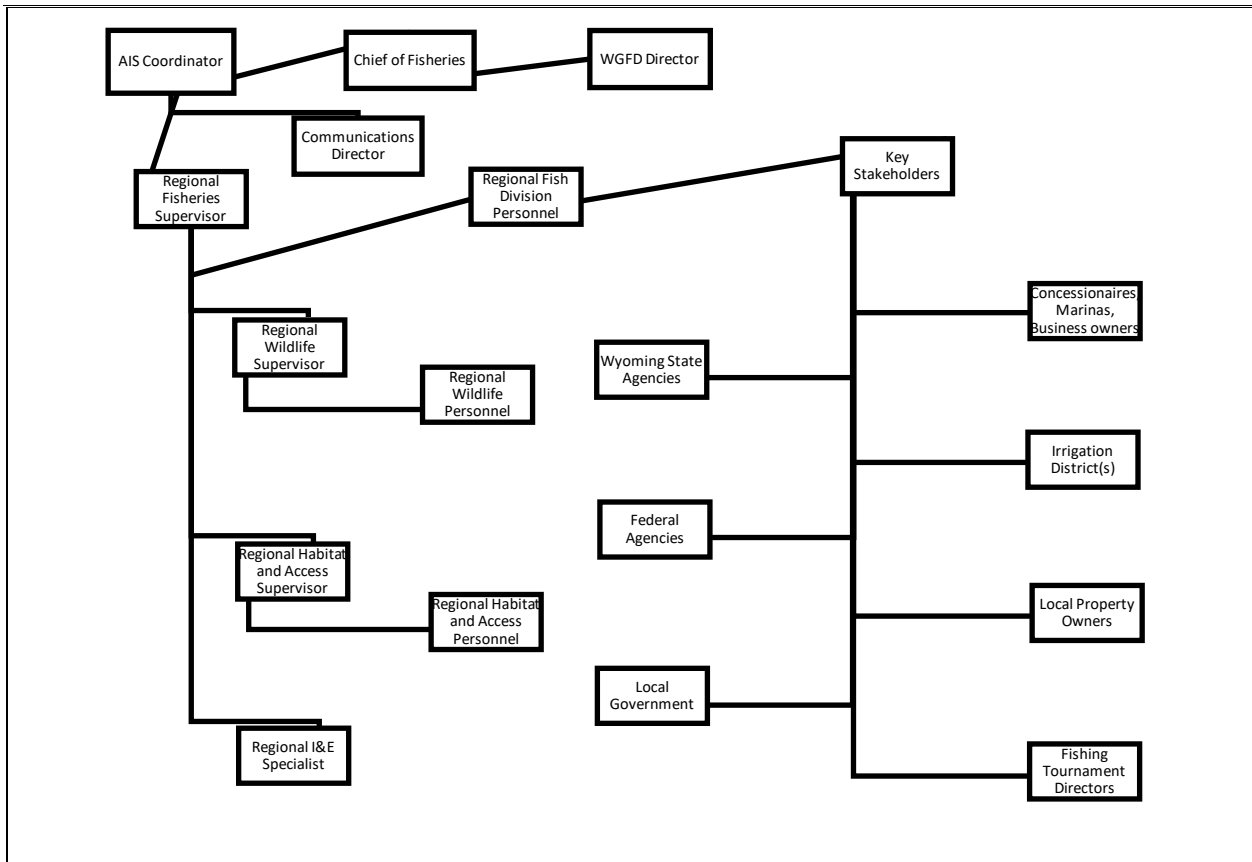


FIGURE 2. Communication chain for dissemination of information on the local and regional level following a dreissenid mussel detection in a Wyoming water.

Closures

In order to funnel boaters through a check station on Lakeshore Drive, which already accounts for the vast majority of boating access to Alcova Reservoir, all ramps at Black Beach and Cottonwood campgrounds will be closed. The exception to this would be during 4 July and Labor Day Weekend holidays, when Black Beach would be reopened for limited use. Establishment of a check station on the Kortez Road is not logistically a sound option because of: 1) low/irregular use patterns by boaters, 2) the required establishment of multiple check stations to cover alternative exit routes, and 3) the inability to differentiate between boats that had used the Miracle Mile reach of the North Platte River, the Walleye Bay portion of Pathfinder Reservoir, and the southeastern access points of Alcova Reservoir. Short-term ramp closures will best be accomplished by erecting bollard posts – connected with heavy grade chain – across the uppermost end of each concrete ramp apron. Because of extensive, but highly irregular, use of non-motorized watercraft by campground patrons, shore launching will also be prohibited on the southeastern shoreline. Watercraft will be able to launch on the northwestern side of the reservoir at any time, but trailering activity will need to be limited to specific hours to meet inspection and decontamination requirements. Removal of watercraft from the reservoir between ½ hour after sunset and 8 AM the following morning will be prohibited. Lastly, no boating

activity should be permitted on Alcova Reservoir from 1 November to 31 March due to very low boat use.

Check Station(s)

There will be one check station established on the Lakeshore Drive access road adjacent to Wyoming Highway 220. Although space will be at a premium for conducting both entrance and exit inspections during the Short-term Suspect Status period, the existing AIS check station pullout on Lakeshore Drive is the best location to intercept the highest amount of boater traffic with minimal staffing and equipment demands. Disorder amongst passing boaters may be minimized with the addition of signage providing instructions for entering vehicles to “keep far right” while maintaining minimal vehicle-to-vehicle gap. In addition to being well situated to divert all private boat ramp users, the Lakeshore Drive check station will facilitate the interception of all exiting public boaters that used the Fremont and Okie ramps; the latter being the largest and most well developed along the entire reservoir. This check station will be operated daily throughout the boating season from 8 AM until ½ hour past sunset.



FIGURE 3. Aerial view of Lakeshore Drive (Natrona County Road 406) AIS check station pullout location at the primary Alcova Reservoir boater access point.

Staffing Plan

Staffing of the Lakeshore Drive check station at Alcova Reservoir will require dedicated effort from the Casper Region Fish Management Crew, Regional AIS Specialist, the Casper roving AIS technician, and additional AIS-certified regional personnel. A minimum of two AIS inspectors per day, working no more than 40 hours per week, will be assigned to the Lakeshore Drive check station at Alcova Reservoir prior to June 1. Employee shifts will be staggered such that one person is on site in the morning, two are on site from mid-day through early evening, and one person closes the check station after sunset. From June 1 to August 31, a minimum of five AIS inspectors working no more than 40 hours per week (each) will be needed at the check station due to increased boater activity, most of which will require complex decontaminations of ballast tanks and inboard/outboard motors. During this busy period, two inspectors per day – again with hours staggered such that one person opens and one person closes – will be required from Monday through Thursday. Weekend staffing at Alcova Reservoir will consist of one inspector in the morning, three inspectors from mid-day through early evening, and two inspectors to close after sunset. September through November would require a minimum of two AIS inspectors, mirroring the plan outlined above for the early spring months, with added coverage during Labor Day Weekend.

Supplies and Equipment

To provide adequate exit inspection coverage and minimize wait times by boaters, two mobile decontamination units will be required at the Lakeshore Drive check station and three units will be preferred, particularly from June 1 through August 31. Though the Casper AIS rover decontamination unit will be appropriated for full-time service at Alcova Reservoir, at least one additional mobile decontamination unit (preferably two) will need to be borrowed or rented. The water supply to fill mobile decontamination units is located at the Okie Campground and will require a pickup-mounted water tank (325 gallon) to be purchased and staged at the inspection location. One gasoline powered pump will also be needed to transfer water from the spare tank to the mobile decontamination unit.

Because of the close proximity of Alcova Reservoir to Casper, no camp groceries or per diem will be required to staff the inspection check station. One camper trailer, belonging to the Casper AIS program, will be hauled to the site to allow inspectors to seek refuge from the weather. Parking of the trailer on the two-track extending south of the Lakeshore Drive check station should allow for minimal obstruction into areas designated for inspection activities. One 5,000-watt generator to power the camper trailer will be borrowed from the Casper region AIS program. Furthermore, the lack of sewage disposal at the check station site will require the rental of two portable lavatories per site, for inspectors as well as the public, one being of a standard single stall design and the other being ADA compliant.

One dynamic messaging sign (DMS) will be rented and deployed facing westbound traffic on Wyoming Highway 220 near the town of Alcova to alert prospective boaters to the closure of boat ramps accessed by the Kortess Road. This early notice will save traveling boaters 6-10 miles of driving (round trip) to learn about closed ramps and may help assuage frustration experienced by the public. Additional static signs will be made to explain nightly boat ramp closures throughout the reservoir, ramp and shore launch closures at Black Beach and Cottonwood campgrounds, the prohibition of exit using Lake Ridge Drive by any vehicles hauling watercraft, check station driving behavior, and mandatory exit inspections of all

watercraft. To adhere to the constrained timeline of the Short-term Suspect Status response, sign decals will be locally printed on vinyl and affixed to 1/8-in thick sheet aluminum by the Casper Region Fisheries Management Crew. Supplies to install signage and to close boat ramps will be procured from the Casper Fish Management or Habitat and Access crews.

Public Outreach

The AIS Administrative Rapid Response Plan outlines the general public outreach plan for suspect, positive or infested determinations for Wyoming waters (WGFD 2020). Following an initial sample testing positive for dreissenid mussels, the AIS Coordinator will contact the Communication Director at WGFD Cheyenne Headquarters. Prior to initiating the public outreach plan, key partners and stakeholders should be contacted according to the Communication Plan (above). The regional fisheries supervisor will attempt to make all contacts within 24 hours of detection and will contact the Communications Director once enough contacts have been made. The Communications Director will then initiate the Communications Plan. A statewide press release will be sent out and information will be posted on the AIS website and any necessary social media. The AIS Coordinator, Regional Fisheries Supervisor and Regional AIS Specialist will collaborate with the Casper Regional I&E Specialist to relay information about Short-term Suspect Status at Alcova Reservoir through media outlets (newspapers, radio, etc.). Regional Information and Education personnel will coordinate all communications efforts with the Communications Director.

RAPID RESPONSE – LONG-TERM SUSPECT STATUS

If initial follow-up sampling does not yield a positive result, Alcova Reservoir would enter Long-term Suspect Status (defined above) and remain at this level for up to three years if no additional positive samples are found. The goal during this period is still to minimize the risk of spreading mussels to other waters. During the first year (from initial detection through the following boating season), we will need to provide capacity for all boaters coming off the water to efficiently obtain a required clean, drain, dry exit inspection, motor flush, and decontamination of ballast tanks and other undrainable areas. All watercraft leaving Alcova Reservoir will receive a red seal and seal receipt to verify the watercraft received an exit inspection. Red seals will designate use on a suspect, positive or infested water versus the brown seal currently used after a Wyoming AIS inspection.

If there is no confirmation of dreissenid mussel presence after the first full boating season, efforts will switch in years two and three to a lower level response, with a goal of contacting a significant number of boaters, but placing more responsibility on boaters to obtain an exit inspection. Inspectors will still conduct clean, drain, dry exit inspections on boats leaving the water and decontaminate ballast tanks and other undrainable areas. If feasible, they will continue to flush all motors. If not, they will drain outboard motors and only flush inboard/outboard and inboard motors as these motor types are difficult to drain completely. Public outreach will increase via multiple outlets to highlight the potential threat at the suspect water.

Communication Plan

The administrative communication chain will continue to be utilized to inform all parties on follow-up sampling results and water status (see WGFD AIS Administrative Rapid Response Plan; WGFD 2020). In addition, the Casper Region internal communication chain outlined in the Short-term Suspect Status section (above) will continue to be utilized to inform the Casper Region and key stakeholders (Appendix A) of follow-up sampling results.

Closures

Upon initiation of Long-term Suspect Status, changes to the aforementioned closure recommendations will be amended to alleviate the burden on inspectors at the Lakeshore Drive check station. More specifically, Black Beach Campground will re-open to watercraft use during sanctioned times (8 AM to ½ hour after sunset) from Thursday to Sunday during the annual boating season (1 April – October 31) and during major recreational holidays (i.e., Memorial Day, Fourth of July, and Labor Day weekends) or scheduled fishing tournaments occurring on Monday – Wednesday. Furthermore, shore launching will be permitted at all Lakeshore Drive access points and at Black Beach Campground; both sites will have check stations in year 1 and can be easily patrolled by enforcement in subsequent years. Conversely, Cottonwood Campground, which has sporadic boat use and is most distant from the Lakeshore Drive check station, will remain closed to all watercraft activity (i.e., ramp use and shore launching) throughout Long-term Suspect Status to minimize unsanctioned watercraft exit and enforcement demands. Similar to Short-term Suspect Status protocol, Alcova Reservoir boaters will be able to launch watercraft at all designated boat ramps at any time, but removal of any watercraft from Alcova Reservoir between ½ hour after sunset and 8 AM the following morning will be prohibited. Lastly, boating activity will be prohibited on Alcova Reservoir from 1 November to 31 March due to very low boat use and staffing logistics at check stations.

Check Station

The AIS check station on Lakeshore Drive will continue to serve as the primary location of exit decontaminations throughout Long-term Suspect Status. Accordingly, this check station will be enlarged to accommodate three lanes of traffic and paved to minimize mud and standing water in the decontamination area. A check station will also be constructed on the sole road allowing ingress and egress to Black Beach Campground to alleviate burden on inspectors at Lakeshore Drive, particularly during the period of boater acclimation (i.e., year 1) and while a local boater program is being initiated. The check station on Black Beach Road will not be operated in years 2 – 3 of Long-term Suspect Status, with the exception of major recreational holidays (i.e., Memorial Day, Fourth of July, and Labor Day weekends) and scheduled fishing tournaments. Signage will be erected after closure of the Black Beach Road check station in year 2 directing boaters to seek immediate decontamination at the Lakeshore Drive check station. The Lakeshore Drive check station will be operated seven days a week from 1 April to 31 October, with staffing from 8 AM to ½-hour after sunset. During the period of regular operation, the Black Beach Road check station will be open Thursday through Sunday, from 8 AM to ½-hour after sunset.

Peak levels of boating activity on Alcova Reservoir occur from May to September and the number of exit decontaminations, particularly on complex boats, may become overwhelming

without the initiation of a local boater program. Recent AIS inspection data shows that 95% of watercraft going to Alcova Reservoir are local Wyoming residents, 68% of which last boated on Alcova Reservoir. Furthermore, these numbers are most likely biased downward because of the high number of Alcova boaters that leave watercraft docked in private slips throughout the season that were not accounted for by roving AIS inspections in 2018 – 2019. In light of the high proportion of local repeat boaters, the majority of which would require complex decontaminations on inboard or inboard/outboard or ballast-tanked boats, a local boater program should be implemented immediately upon entry into Long-term Suspect Status to expedite inspections for boaters that only use Alcova Reservoir. While basic conditions of this program will include the ability for members to launch and retrieve watercraft from any ramp, at any time of day, specific details and requirements of the local boater program will adhere to recommendations found in the Administrative Rapid Response Plan (WGFD 2020).

Staffing Plan

Staffing of inspection check stations at Alcova Reservoir during year 1 will necessitate the hiring of seven inspectors, all of which will be on 9-month contracts. A Biologist I will also be hired, under a 10-month contract, to supervise daily operations and assist with inspections. Five of the aforementioned inspectors will be assigned to the Lakeshore Drive check station during year 1 to adequately cover 10-hour shifts throughout each day of the week. Two technicians will work each day on Monday and Tuesday, three technicians each day on Wednesday through Saturday, and four technicians on Sunday. Lakeshore Drive shifts will be staggered such that only one technician is present during opening and closing activities, with overlapping coverage during times of highest boat exit activity (i.e., mid-day to early evening). This ramp up in activity and staggering of technician shifts would be necessary to adequately inspect and decontaminate all boats that accumulate via camping during the week and early weekend before leaving Alcova Reservoir on Sunday. The remaining two inspectors hired in year 1 will be assigned to the Black Beach Road check station from Thursday through Sunday from 8 AM to ½-hour after sunset. Ten-hour shifts will be staggered such that one inspector opens the station, both inspectors are present throughout the afternoon, and the second technician closes the inspection station after sunset.

In years two and three of Long-term Suspect Status, staffing levels should be reduced to four technicians, all on 9-month contracts, and one Biologist I position, on a 10-month contract. This will better account for the lack of staffing at the (closed) Black Beach Road check station, the increased responsibility placed on boaters to get an exit inspection, and the initiation of a local boater program. Two technicians per day will staff the Lakeshore Drive check station from Monday through Friday, while three technicians per day will staff Saturday and Sunday. All technicians will be scheduled on staggered 10-hour shifts as described for year 1 of the Long-term Suspect Status protocol.

Supplies and Equipment

In order to keep as many ramps open as possible and still intercept boaters for exit inspections and decontaminations, the Lakeshore Drive check station will need to be expanded upon and the Black Beach Road check station will need to be established from scratch. The Lakeshore Drive pull out will be enlarged wide enough to facilitate three lane widths and long enough to accept at least four vehicles with trailers. The sloping hill and size of the pull out

will require extensive site preparation with dolomite road-base. In order to keep mud to a minimum, and because the Lakeshore Drive check station will see extensive use throughout all Rapid Response Plan statuses, the core decontamination area should be completely paved with new asphalt with a slope allowing drainage to the westernmost roadside ditch. If the Game and Fish Habitat and Access Maintenance branch can construct the Lakeshore Drive check station, it will cost approximately \$68,000 in material costs. If contracted out, it could be significantly more expensive.

The Black Beach Road check station will be constructed wide enough to facilitate two lane widths and long enough to accept three vehicles with trailers. The Black Beach pull out will be constructed of dolomite road base. However, to keep mud to a minimum, decontamination pads should be constructed of crushed gravel over an impermeable membrane with drainage away from the road surface incorporated into the design. If they can be constructed by the Game and Fish Habitat and Access Maintenance branch, the Black Beach Road pull out can be built for around \$18,000 in materials costs. If contracted out, it could be significantly more expensive.

Six decontamination units will be purchased during Long-term Suspect Status. Two units will be stationed at the Black Beach Road check station. The remaining four decontamination units will remain at the Lakeshore Drive check station, with one serving as a spare unit both check stations.

Two ¾-ton pickups will be purchased for hauling water to the inspection stations. Each ¾-ton truck will be outfitted with a 16-foot utility trailer with a 10,000-lb rating. Two 500-gallon tanks will be mounted to each trailer to haul 1,000 gallons of water for check station re-supply. Each trailer will have a 2-inch water pump to efficiently transfer water from trailer tanks to decontamination units and extra supply tanks. One 2,100 gallon cistern constructed of black plastic (for algae control) will also be purchased and partially buried (for structural support) to store a large amount of water onsite at Lakeshore Drive to account for the amount of boats with ballast tanks and provide an operational buffer if additional water-hauling trips must be undertaken on busy days.

State motor pool sedans will be rented (two in year 1 and one in subsequent years) to courier technicians on staggered shifts between the Casper Regional Office and Alcova Reservoir check stations. Furthermore, one ½-ton pickup will be rented in each year of Long-term Suspect Status to facilitate the transportation of decontamination units and supplies between check stations and between the Casper Regional Office and Alcova Reservoir check stations.

Each check station should have a mobile office trailer on-site. This will allow secure storage of check station materials and shelter during inclement weather. There is currently no electricity at either check station, so each mobile unit will be provided two 2,000-watt generators with parallel kit to run lights, air conditioning units, heater, and technological devices. Furthermore, the lack of sewage disposal at either check station will require the rental of two portable lavatories per site, one being of a standard single stall design and the other being ADA compliant.

One DMS will be purchased and deployed facing westbound traffic on Wyoming Highway 220 near the town of Alcova to alert prospective boaters to the closure of boat ramps accessed by the Kortess Road. Additional static signs will be purchased to replace crew-manufactured signs from the Short Term Suspect Status response. These signs will be installed throughout the access points of Alcova Reservoir to explain nightly boat ramp closures, ramp and shore launch closures at Cottonwood Campground, the prohibition of exit using Lake Ridge Drive by any vehicles hauling watercraft, check station driving behavior, and mandatory exit

inspections of all watercraft. Signs will also need to be purchased for years two and three at Black Beach Campground, after closing the check station site, to instruct boaters where to pursue an exit decontamination.

Public Outreach

At Long-term Suspect Status, statewide public outreach efforts will continue to follow the process outlined in the Administrative Rapid Response Plan (WGFD 2020). The Regional Fisheries Supervisor and Regional AIS Specialist will continue to collaborate with the Casper Regional I&E Specialist to keep the local boating public aware of the threats and responsibilities associated with a Long-term Suspect Status on Alcova Reservoir.

RAPID RESPONSE – POSITIVE STATUS

Alcova Reservoir will be considered positive for dreissenid mussels if two or more sampling events within a 12-month period meet the minimum criteria for detection (defined above). Alcova Reservoir will remain at Positive Status for five consecutive years of negative sample results, at which time it will be downgraded to Negative Status. Alternatively, if an established population of mussels is detected during that five years, it will be upgraded to Infested Status.

The goal during Positive Status is still to minimize the risk of spreading mussels to other waters. We will need to provide capacity for all boaters coming off the water to efficiently obtain a required clean, drain, dry inspection, motor flush, and decontamination of ballast tanks and other undrainable areas. If live mussels are found on any boats during exit inspections, they will be fully decontaminated and consideration will be given to upgrading Alcova Reservoir to Infested Status. All watercraft leaving Alcova Reservoir will receive a seal and seal receipt to verify the watercraft received an exit inspection. Seals will be red in color to designate use on a suspect, positive or infested water versus the brown seal currently used after a Wyoming AIS inspection.

Communication Plan

The administrative communication chain will continue to be utilized to inform all parties on follow-up sampling results and water status (see WGFD AIS Administrative Rapid Response Plan; WGFD 2020). In addition, the Casper Region internal communication chain outlined in the Short-term Suspect Status section (above) will be used to inform the Casper Region and key stakeholders of changes in status level.

Closures

Upon transition to Positive Status at Alcova Reservoir, all closures outlined in year 1 of the Long-term Suspect Status protocol will remain in effect. This includes the complete closure of Cottonwood Campground to watercraft activity (i.e., ramp or shore launching), non-holiday closures of Black Beach Campground boat ramps from Monday through Wednesday, and prohibition of watercraft egress from any open boat ramps between ½ hour after sunset and 8 AM. Lastly, watercraft use on Alcova Reservoir will be prohibited from November 1 – March 31.

Check Station

Check stations will be located as designated in year 1 of Long-Term Suspect Status. This includes establishment of check stations on Lakeshore Drive and Black Beach Road. If transitioning from Long-term Suspect to Positive Status, all check stations will have already been built. If transitioning directly from Short-term Suspect to Positive Status, all check stations will need to be constructed. Lastly, a local boater program should be implemented for Alcova Reservoir to reduce inspection and decontamination demands at check stations by repeat boaters; See the Administrative Rapid Response Plan (WGFD 2020) for more information on local boater programs.

Staffing Plan

Staffing needs will be the same as year 1 of Long-term Suspect Status. In order to adequately staff the Lakeshore Drive and Black Beach Road check stations, seven inspectors should be hired on 9-month contracts. Furthermore, one Biologist I (10-month contract) should be hired to oversee day-to-day operations and assist with inspections. Rotation of check station staffing will adhere to the afore-described daily schedule found in year 1 of the Long-term Suspect Status protocol.

Supplies and Equipment

Requirements for supplies and equipment will follow year 1 of Long-term Suspect Status outlined above. If transitioning from Long-term Suspect Status to Positive Status, the majority of supplies and equipment will have already been procured. If transitioning from Short-term Suspect Status to Positive Status, all supplies and equipment will need to be purchased. The attached budget table contains caveat provisions for both scenarios (Appendix B).

Public Outreach

At Positive Status, statewide public outreach efforts will continue to follow the process outlined in the Administrative Rapid Response Plan (WGFD 2020). The Regional Fisheries Supervisor and Regional AIS Specialist will continue to collaborate with the Casper Regional I&E Specialist to keep the local boating public aware of the threats and responsibilities associated with a Positive Status on Alcova Reservoir.

RAPID RESPONSE – INFESTED STATUS

Alcova Reservoir will be considered Infested if an established (recruiting or reproducing) population of dreissenid mussels is identified. Alcova Reservoir will remain at Infested Status until methods for complete eradication are discovered and implemented. Based on the best available technology and science at the time of this publication, it is expected that Alcova Reservoir would remain in Infested Status in perpetuity.

The goal during Infested Status is still to minimize the risk of spreading mussels to other waters. We will need to provide the capacity to contact all boaters coming off the water, conduct exit inspections, and ensure all boats leaving have undergone a full decontamination. All watercraft leaving Alcova Reservoir will receive a red seal and seal receipt to verify the

watercraft received an exit inspection. Red seals will designate use on a suspect, positive or infested water versus the brown seal currently used after a Wyoming AIS inspection.

Communication Plan

The administrative communication chain will continue to be utilized to inform all parties on follow-up sampling results and water status (see WGFD AIS Administrative Rapid Response Plan; WGFD 2020). In addition, the Casper Region internal communication chain outlined in the Short-term Suspect Status section (above) will continue to be utilized to inform the Casper Region and key stakeholders of changes in status level.

Closures

Upon transition to Infested Status at Alcova Reservoir, all closures outlined in year 1 of the Long-term Suspect Status protocol will remain in effect. This includes the complete closure of Cottonwood Campground to watercraft activity (i.e., ramp or shore launching), non-holiday closures of Black Beach Campground boat ramps from Monday through Wednesday, and prohibition of watercraft egress from any open boat ramps between ½ hour after sunset and 8 AM. Lastly, watercraft use on Alcova Reservoir will be prohibited from November 1 – March 31.

Check Station

Check stations will be located as designated in year 1 of Long-Term Suspect Status. This includes establishment of check stations on Lakeshore Drive and Black Beach Road. If transitioning from Long-term Suspect to Infested Status, all check stations will have already been built. If transitioning directly from Short-term Suspect Status to Infested Status, all check stations will need to be constructed. Lastly, a local boater program should be implemented for Alcova Reservoir to reduce inspection and decontamination demands at check stations by repeat boaters; See the Administrative Rapid Response Plan (WGFD 2020) for more information on local boater programs.

Staffing Plan

Staffing needs will be the same as year 1 of Long-term Suspect Status. In order to adequately staff the Lakeshore Drive and Black Beach Road check stations, seven inspectors should be hired on 9-month contracts. Furthermore, one Biologist I (10-month contract) should be hired to oversee day-to-day operations and assist with inspections. Rotation of check station staffing will adhere to the afore-described daily schedule found in year 1 of the Long-term Suspect Status protocol.

Supplies and Equipment

Requirements for supplies and equipment will follow year 1 of Long-term Suspect Status outlined above. If transitioning from Long-term Suspect Status to Infested Status, the majority of supplies and equipment will have already been procured. Infested Status deviations to plans outlined in year 1 of Long-term Suspect Status would include alternate provisions for water

supply, waste disposal, and power supply. This would include the drilling of a well adjacent to the Lakeshore Drive check station site to reduce water hauling demands; water supplied to the Black Beach check station will be hauled either from the Casper Regional Office or from the Lakeshore Drive well. Furthermore, given the extended wait-times of decontaminating every exiting watercraft, a dual-gender concrete comfort station will be constructed near the Lakeshore Drive check station for public use. Lastly, connecting check station trailers to the adjacently located electric power lines will be undertaken to reduce dependency on generators. If transitioning from Short-term Suspect Status to Infested Status, all supplies and equipment will need to be purchased in accordance with year 1 Long-term Suspect Status protocol and the amendments described immediately above. The attached budget table contains caveat provisions for both scenarios (Appendix B).

Public Outreach

At Infested Status, statewide public outreach efforts will continue to follow the process outlined in the Administrative Rapid Response Plan (WGFD 2020). The Regional Fisheries Supervisor and Regional AIS Specialist will continue to collaborate with the Casper Regional I&E Specialist to keep the local boating public aware of the threats and responsibilities associated with an Infested Status on Alcova Reservoir.

REFERENCES

- WGFD. 2019. Wyoming Game and Fish Department Aquatic Invasive Species Sampling and Monitoring Manual. Wyoming Game and Fish Department, Cheyenne, WY.
- WGFD. 2020. Wyoming Game and Fish Department Administrative Dreissenid Mussel Rapid Response Plan. Wyoming Game and Fish Department, Cheyenne, WY.

APPENDIX A: KEY CONTACTS

		Phone	Email
<u>Wyoming Game & Fish Department</u>			
	Director		
	Chief of Fisheries		
	Aquatic Invasive Species Coord.		
	Casper Region Fisheries Supervisor		
	Casper Region Wildlife Supervisor		
	Casper Region AIS Specialist		
	Casper Region Fisheries Biologist		
	Casper Region Fisheries Biologist		
	West Casper Game Warden		
	East Casper Game Warden		
	Information & Education Specialist		
<u>Natrona County Parks Department</u>			
	Parks and Recreation Director		
<u>Natrona County Commission</u>			
	Chairman		
	Vice Chairman		
	Commissioner		
	Commissioner		
	Commissioner		
<u>U.S. Bureau of Reclamation</u>			
	Land Management Branch		
<u>Concessionaires</u>			
	Alcova Lakeside Marina		
<u>Stakeholders</u>			
	Alcova Cabin Owners Assoc.		
	Alcova-Casper Irrigation Dist.		
	Casper Boat Club		
	Casper Water Ski Club		
	Sloanes General Store		

APPENDIX B: ANNUAL BUDGETS ASSOCIATED WITH EACH STATUS LEVEL**SHORT-TERM SUSPECT STATUS**

Supplies	Description	# of units	Cost/unit	Total Cost
	DMS Rental (two months)	2	\$1,080	\$2,160
	DMS Shipping	1	\$1,200	\$1,200
	Pickup bed water tanks	1	\$325	\$325
	2-inch gas powered water pump	1	\$300	\$300
	Check station and ramp signs	15	\$100	\$1,500
	Decontamination unit rental (weeks)*	6	\$1,400	\$8,400
	Standard Porta-potty (6 weeks)	1	\$450	\$450
	ADA Porta-potty (6 weeks)	1	\$575	\$575
	Subtotal			\$14,910
	Total			\$14,910

* Rental of mobile decontamination unit will only occur if no WGFD owned units can be made available on loan from non-Casper region AIS or Fisheries Management crews.

LONG-TERM SUSPECT STATUS YEAR 1

Personnel	Description	# of Months	Cost/Month	Total Cost
	Biologist I, 10 months	10	\$4,543	\$45,430
	Technician 1, 9 months	9	\$2,863	\$25,767
	Technician 2, 9 months	9	\$2,863	\$25,767
	Technician 3, 9 months	9	\$2,863	\$25,767
	Technician 4, 9 months	9	\$2,863	\$25,767
	Technician 5, 9 months	9	\$2,863	\$25,767
	Technician 6, 9 months	9	\$2,863	\$25,767
	Technician 7, 9 months	9	\$2,863	\$25,767
	Outside help for busy times	1	\$4,553	\$4,553
	Subtotal			\$230,352
Vehicle	Description	# of Months	Cost/Month	Total Cost
	Purchase 3/4 ton Pickup 1	1	\$33,000	\$33,000
	Purchase 3/4 ton Pickup 2	1	\$33,000	\$33,000
	Lease State Motor Pool Sedan 1	9	\$500	\$4,500
	Lease State Motor Pool Sedan 2	9	\$500	\$4,500
	Lease State Motor Pool 1/2 Ton Pickup	9	\$960	\$8,640
	Subtotal			\$83,640
Supplies	Description	# of Units	Cost/Unit	Total Cost
	Black Beach Road pullout - gravel	1	\$18,500	\$18,500
	Lakeshore Drive pullout - paved	1	\$68,000	\$68,000
	16-foot utility trailer, 10,000lb rating	2	\$4,000	\$8,000
	550 gal plastic ag tank	4	\$450	\$1,800
	2,100 gal black plastic cistern	1	\$1,200	\$1,200
	2-inch trash pump	2	\$300	\$600
	Office Trailer	2	\$20,000	\$40,000
	Generator 2-pack with parallel	2	\$1,900	\$3,800
	Decon Unit with attachments	6	\$12,500	\$75,000
	Camp Trailer	1	\$20,000	\$20,000
	Misc supplies 231 - 239 series	1	\$5,000	\$5,000
	DMS Sign	1	\$12,500	\$12,500
	Check Station signs	13	\$650	\$8,450
	Standard Porta-potty (9 months)	2	\$2,700	\$5,400
	ADA Porta-potty (9 months)	2	\$3,600	\$7,200
	Subtotal			\$275,450
	Total			\$589,442

LONG TERM SUSPECT STATUS YEARS 2-3

Personnel	Description	# of Months	Cost/Month	Total Cost
	Biologist I, 10 months	10	\$4,543	\$45,430
	Technician 1, 9 months	9	\$2,863	\$25,767
	Technician 2, 9 months	9	\$2,863	\$25,767
	Technician 3, 9 months	9	\$2,863	\$25,767
	Technician 4, 9 months	9	\$2,863	\$25,767
	Outside help for busy times	1	\$4,553	\$4,553
	Subtotal			\$153,051
Vehicle	Description	# of Months	Cost/Month	Total Cost
	Lease State Motor Pool Sedan 1	9	\$500	\$4,500
	Lease State Motor Pool 1/2 Ton Pickup	9	\$960	\$8,640
	Subtotal			\$13,140
Supplies	Description	# of units	Cost/unit	Total Cost
	Misc supplies 231-239	1	\$2,500	\$2,500
	Check Station signs	2	\$650	\$1,300
	Subtotal			\$3,800
	TOTAL			\$169,991

POSITIVE STATUS

Personnel	Description	# of Months	Cost/Month	Total Cost
	Biologist I, 10 months	10	\$4,543	\$45,430
	Technician 1, 9 months	9	\$2,863	\$25,767
	Technician 2, 9 months	9	\$2,863	\$25,767
	Technician 3, 9 months	9	\$2,863	\$25,767
	Technician 4, 9 months	9	\$2,863	\$25,767
	Technician 5, 9 months	9	\$2,863	\$25,767
	Technician 6, 9 months	9	\$2,863	\$25,767
	Technician 7, 9 months	9	\$2,863	\$25,767
	Outside help for busy times	1	\$4,553	\$4,553
	Subtotal			\$230,352
Vehicle	Description	# of Months	Cost/Month	Total Cost
	Purchase 3/4 ton Pickup 1 *	1	\$33,000	\$33,000
	Purchase 3/4 ton Pickup 2 *	1	\$33,000	\$33,000
	Lease State Motor Pool Sedan 1	9	\$500	\$4,500
	Lease State Motor Pool Sedan 2	9	\$500	\$4,500
	Lease State Motor Pool 1/2 Ton Pickup	9	\$960	\$8,640
	Subtotal			\$83,640
Supplies	Description	# of Units	Cost/Unit	Total Cost
	Black Beach Road pullout - gravel*	1	\$18,500	\$18,500
	Lakeshore Drive pullout - paved*	1	\$68,000	\$68,000
	16-foot utility trailer, 10,000lb rating*	2	\$4,000	\$8,000
	550 gal plastic ag tank*	4	\$450	\$1,800
	2,100 gal black plastic cistern*	1	\$1,200	\$1,200
	2-inch trash pump*	2	\$300	\$600
	Office Trailer*	2	\$20,000	\$40,000
	Generator 2-pack with parallel*	2	\$1,900	\$3,800
	Decon Unit with attachments*	6	\$12,500	\$75,000
	Camp Trailer*	1	\$20,000	\$20,000
	Misc supplies 231 - 239 series	1	\$5,000	\$5,000
	DMS Sign*	1	\$12,500	\$12,500
	Check Station signs*	13	\$650	\$8,450
	Standard Porta-potty (9 months)	2	\$2,700	\$5,400
	ADA Porta-potty (9 months)	2	\$3,600	\$7,200
	Subtotal			\$275,450
	Total			\$589,442

* These items will not need to be purchased if transitioning from Long-term Suspect Status.

INFESTED STATUS

Personnel	Description	# of Months	Cost/Month	Total Cost
	Biologist I, 10 months	10	\$4,543	\$45,430
	Technician, 9 months x 7	63	\$2,863	\$180,369
	Outside help for busy times	1	\$4,553	\$4,553
	Subtotal			\$230,352
Vehicle	Description	# of Months	Cost/Month	Total Cost
	Purchase 3/4 ton Pickup 1 *	1	\$33,000	\$33,000
	Purchase 3/4 ton Pickup 2 *	1	\$33,000	\$33,000
	Lease State Motor Pool Sedan 1	9	\$500	\$4,500
	Lease State Motor Pool Sedan 2	9	\$500	\$4,500
	Lease State Motor Pool 1/2 Ton Pickup	9	\$960	\$8,640
	Subtotal			\$83,640
Supplies	Description	# of Units	Cost/Unit	Total Cost
	Black Beach Road pullout - gravel*	1	\$18,500	\$18,500
	Lakeshore Drive pullout - paved*	1	\$68,000	\$68,000
	16-foot utility trailer, 10,000lb rating*	2	\$4,000	\$8,000
	550 gal plastic ag tank*	4	\$450	\$1,800
	2,100 gal black plastic cistern*	1	\$1,200	\$1,200
	2-inch trash pump*	2	\$300	\$600
	Office Trailer*	2	\$20,000	\$40,000
	Decon Unit with attachments*	6	\$12,500	\$75,000
	Camp Trailer*	1	\$20,000	\$20,000
	Misc supplies 231 - 239 series	1	\$5,000	\$5,000
	DMS Sign*	1	\$12,500	\$12,500
	Check Station signs*	13	\$650	\$8,450
	Comfort station construction	1	\$15,000	\$15,000
	Standard Porta-potty (9 months)	1	\$2,700	\$2,700
	ADA Porta-potty (9 months)	1	\$3,600	\$3,600
	Subtotal			\$280,350
Utilities	Description	# of Units	Cost/Unit	Total Cost
	Lakeshore Drive water well	1	\$50,000	\$50,000
	Power Hookup	2	\$5,500	\$11,000
	Subtotal			\$61,000
	Total			\$655,342

* Will not need to be purchased if transitioning from Long-term Suspect or Positive status.