

Denver Water

**Gross Reservoir Hydroelectric Project
FERC Project No. 2035
U.S. Forest Service Condition 17**

INVASIVE SPECIES MANAGEMENT PLAN

June 9, 2021



Prepared by:



Contents

Appendices	iii
Glossary	iv
Definitions	iv
1. Introduction.....	1
1.1 Scope and Objectives of the Tree Removal Plan	1
2. Aquatic Invasive Species Management and Monitoring Plan.....	2
2.1 Implementation	2
2.2 Federal and State Regulations.....	2
2.3 Geographical Scope	2
2.4 AIS Public Education Program.....	2
2.4.1 Signage	2
2.4.2 Leaflets.....	3
2.4.3 Website Information.....	3
2.4.4 AIS Reporting Contact Information.....	3
2.5 Best Management Practices (BMPs)	3
2.5.1 List of AIS with Potential to be Introduced.....	3
2.5.2 Preventive Measures	4
2.5.2.1 Recreational Watercraft Use.....	4
2.5.2.2 Occupational Watercraft Use	4
2.5.2.3 Contractors.....	5
2.5.2.4 Live Fish Bait.....	5
2.5.3 Critical Control Points	5
2.5.4 Implementation Monitoring.....	5
2.5.4.1 Surveys.....	5
2.5.5 Actions on Discovery of AIS.....	6
2.5.5.1 Public.....	6
2.5.5.2 Contractors.....	6
2.6 Agency Coordination.....	6
2.7 Monitoring and Reporting.....	6
2.7.1 Substrate Surveys, Plankton Tows, Shoreline Surveys.....	6
2.7.2 Public Use Monitoring.....	7
2.7.3 Reporting.....	7

2.8	Plan Revisions	7
3.	Invasive Plant and Noxious Weed Species Management Plan	7
3.1	Implementation	7
3.2	Regulatory Context	8
3.3	Geographical Scope	9
3.4	Overview of Denver Water’s Existing Weed Management Program	10
3.5	Protocol for Future Noxious Weed Treatments	10
3.5.1	Coordination & Prioritization.....	10
3.5.2	Treatment	11
3.5.3	Noxious Weed Prevention.....	11
3.5.4	Best Management Practices	11
3.6	Tracking & Reporting	12
3.7	Internal Education	12
3.8	Adaptive Management	12
3.9	Plan Revisions	13
4.	References	14

Appendices

- Appendix A: USFS Approval Letter
- Appendix B: Stakeholder Coordination and Review
- Appendix C: Map of Plan Boundaries
- Appendix D: Sign Location and Design
- Appendix E: List of Aquatic Invasive Species
- Appendix F: Education Program Effectiveness Survey
- Appendix G: ANS Monitoring Locations
- Appendix H: Road Maintenance Location
- Appendix I: Colorado Noxious Weeds, effective October, 2020

Glossary

AIS	Aquatic Invasive Species
AIS Plan	Aquatic Invasive Species Management and Monitoring Plan
ANS	Aquatic Nuisance Species
BMPs	Best Management Practices
CDA	Colorado Department of Agriculture
CDOW	Colorado Department of Wildlife
Commission	FERC
Condition	Requirement outlined by the USFS with the FERC license Settlement Agreement, 2016
CPW	Colorado Parks and Wildlife Service
CSP	Colorado State Parks
FERC	Federal Energy Regulatory Commission
GIS	Geographical Information System
GPS	Global Positioning System
GRE Project	Gross Reservoir Expansion Project
IPNWS	Invasive Plant and Noxious Weed Species Management Plan
O&M	Operations and Maintenance
Plan	Invasive Species Management Plan
Project	Gross Reservoir Hydroelectric Project FERC No. 2035
Project-related waterbody	Gross Reservoir within the FERC boundary
Secretary	Secretary of the Commission
SOPs	Standard Operating Procedures
SOS	Denver Water's Source of Supply
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

Definitions

AIS – Aquatic Invasive Species are non-native plants and animals that spread rapidly causing ecological and economic harm. They are transported into an ecosystem that is beyond its historic range.

ANS – Aquatic plants and animals that invade lakes, reservoirs, rivers and streams. Also include fish pathogens and diseases. Nuisance species may be native or non-native.

Invasive Species – Plants, animals, insects or diseases that are introduced accidentally or intentionally outside of their native range and have harmful negative effects on the economy and environment.

Noxious Weeds – Terrestrial or aquatic exotic plants that out-compete natives for lights, space, and nutrients.

Vessel – A "vessel" is over eight feet in length and sail-powered or motor-driven (regardless of length).

Exempt Boat – Not launched from a trailer and does not have a gas or electric motor.

1. Introduction

The Board of Water Commissioners for the City and County of Denver (Denver Water) is in the process of obtaining the necessary permissions to expand Gross Dam and Reservoir (the Gross Reservoir Expansion Project or GRE Project). The GRE Project involves raising the dam at Gross Reservoir, located on South Boulder Creek in Boulder County, Colorado, by 131 feet. The reservoir storage capacity will be expanded by 77,000 acre-feet increasing the storage capacity from approximately 42,000 acre-feet to approximately 119,000 acre-feet.

Since Gross Reservoir is within a federal hydropower reserve and is subject to an existing Federal Energy Regulatory Commission (FERC) hydropower license – Gross Reservoir Hydroelectric Project No. 2035 – Denver Water had to amend its existing hydropower license to pursue the GRE Project. The FERC order amending this license (FERC Order) was issued on July 16, 2020 and mandates the creation of several plans to address impacts related to the expansion and operation of Gross Dam and Reservoir by Denver Water.

1.1 Scope and Objectives of the Tree Removal Plan

The 2020 FERC Order requires Denver Water to start and complete construction of the raised dam by July 16, 2022, and July 16, 2027, respectively, and to submit a final Invasive Species Management Plan by July 16, 2021. This Invasive Species Management Plan (Plan) has been prepared consistent with U.S. Forest Service (USFS) Condition 17 of the FERC Order.

This plan includes two parts:

- An Aquatic Invasive Species Management and Monitoring Plan (AIS Plan) presented in Section 2.
- An Invasive Plant and Noxious Weed Species Management Plan (IPNWS Plan) presented in Section 3.

This plan meets all applicable federal and state regulations and guidelines. The AIS Plan has been developed in consultation with USFS, U.S. Fish and Wildlife Service (USFWS), Colorado Parks and Wildlife (CPW), and Boulder County. The IPNWS Plan has been developed in consultation with USFS and Boulder County.

This plan replaces the previous 4e Conditions 107 (Weed Management Plan) and 108 (Pesticide/Herbicide Use Plan), required in the March 16, 2001 FERC license renewal for Project No. 2035. This plan has been developed consistent with Article 406. Consistent with the terms of 4(e) Condition 17, this Invasive Species Management Plan was approved by the USFS prior to submittal to FERC (Appendix A).

Denver Water provided a draft Invasive Species Management Plan for review and comment on March 15, 2021. All comments that were received on this plan are included in Appendix B. Denver Water reviewed and responded to all received comments and made necessary changes

to this final Invasive Species Management Plan. A matrix of comments and Denver Water responses are provided in Appendix B.

2. Aquatic Invasive Species Management and Monitoring Plan

2.1 Implementation

Upon FERC approval, this AIS Plan will become effective until such time as the FERC license expires or is amended. Denver Water will begin implementation of this AIS Plan following completion of the GRE Project. During the construction period and until completion of the GRE Project, Denver Water will follow the AIS regulations for all construction equipment entering Gross Reservoir as defined in the U.S. Army Corps of Engineers' Section 404 Permit authorizing construction of the expanded reservoir project.

2.2 Federal and State Regulations

The federal Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990 (Act) established the Aquatic Nuisance Species (ANS) Task Force. The Act was replaced by the National Invasive Species Act in 1996, which reauthorized and amended that 1990 Act. The ANS Task Force is responsible for implementing the Act, which includes a program to prevent, monitor, research, coordinate, and educate about ANS. In 2008, the Clean Boating Act was introduced to promulgate management practices for recreational vessels.

In Colorado, CPW has an Aquatic Nuisance Species Program, whereby rules are promulgated for statewide inspections, certification, decontamination, impoundment, monitoring, and reporting related to ANS. CPW's rules and guidance and the above federal guidance have been incorporated into this Plan where appropriate.

2.3 Geographical Scope

This AIS Plan covers the Gross Reservoir waterbody and tributaries within the FERC Project Boundary (Appendix C).

2.4 AIS Public Education Program

The FERC License does not allow public use of motorized watercraft or boats with bilges to enter Gross Reservoir. Therefore, the AIS Public Education Program will be limited to signage, leaflets, website information, and AIS reporting contact information. Where possible, Denver Water will use materials from CPW for consistent messaging and to avoid any conflict with CPW's ANS Program. Denver Water will consult with USFS on the sign design layout and locations to install signage at Gross Reservoir (see Appendix D).

2.4.1 Signage

Signage will be placed along trails to popular fishing locations and in areas where watercraft may be launched into the reservoir. See Appendix D for signage locations and design.

Signage will be placed in the following locations:

- Parking lot to Scenic Ridge Trail.
- Parking lot at the existing Peninsula Recreation Area.
- Parking lot at the Haul Road Recreation Area.
- Parking lot at the Northern Dam Viewpoint.

Signage will consist of:

- How to inspect watercraft/fishing equipment for AIS.
- An explanation of why AIS are harmful.
- The importance of cleaning, draining, drying equipment or vessels entering waterways.
- Species of concern will be listed with a brief description and pictures.
- Limitations on the use of live aquatic bait above 7,000 feet elevation.
- Contact details for reporting any suspected AIS in the reservoir.
- Prohibitions on personal motorized boating.

2.4.2 Leaflets

Denver Water will purchase leaflets from CPW to be made available at selected signage locations. This is the leaflet that will be used:

<http://cpw.state.co.us/Documents/RulesRegs/Brochure/CPW-ANSAudienceBrochure.pdf>

Updated versions may be used as inventory diminishes.

2.4.3 Website Information

The Denver Water Gross Reservoir recreation website has information about AIS and will supplement the educational content of the on-site signage and leaflets. The website will also include information about the Chytrid Fungus that infects amphibians.

The website can be found at: <https://www.denverwater.org/recreation/gross-reservoir>

2.4.4 AIS Reporting Contact Information

All AIS signage, leaflets, and the Denver Water Gross Reservoir recreation website will contain phone numbers for public reporting of possible AIS sightings or illegal boating activities at Gross Reservoir.

2.5 Best Management Practices (BMPs)

Denver Water has developed BMPs to prevent the spread of AIS from the operation and maintenance activities performed by Denver Water or its contractors at Gross Reservoir.

2.5.1 List of AIS with Potential to be Introduced

Appendix E contains a list of nationwide aquatic invasive plants and animals recognized by the U.S. Department of Agriculture (USDA). Invasive species have potential to be introduced from anywhere within the contiguous United States and beyond. According to CPW, the top AIS concerns in Colorado are:

- Zebra and Quagga Mussels.
- New Zealand Mudsail.
- Rusty Crayfish.
- Fishhook Water Flea.
- Spiny Water Flea.
- Brazilian Egeria.
- Eurasian watermilfoil.
- Water Hyacinth (CPW^a 2020)

Also present in Colorado are Whirling Disease, Chytrid Fungus, and Didymo which are recognized as AIS by the USFS (USFS 2009).

This AIS Plan will focus primarily on the species mentioned above, due to their increased potential for introduction, but applies to all of those species listed in Appendix E.

2.5.2 Preventive Measures

Denver Water's primary line of defense against AIS introduction is the prohibition of public motorized watercraft or boats with bilges at Gross Reservoir. Where necessary, inspections will also be conducted for Denver Water or its contractors' use of motorized watercraft as outlined below.

2.5.2.1 Recreational Watercraft Use

In accordance with Articles 416 and 417 of the FERC License (March 16, 2001), which authorized the Recreation Management Plan, permitted watercraft include "car top, non-motorized" boats such as canoes, paddleboards, and kayaks. Public use of motorized watercraft or boats with bilges are not permitted to enter Gross Reservoir. Control and prevention of AIS spread by exempted watercraft (those that are not launched from a trailer and do not have a gas or electric motor) are addressed in Section 2.4 AIS Public Education Program. Despite these watercraft being exempt from inspections, Denver Water will encourage recreational users to conduct their own ANS inspections and to practice clean, drain, dry, in order to take an extra precautionary approach.

2.5.2.2 Occupational Watercraft Use

There are limited motorized watercraft used on the reservoir, which consist of:

- A Denver Water Caretaker boat.
- A Denver Water recreational patrol boat.
- Other Denver Water boats, such as a Survey boat.
- A Search and Rescue boat (currently operated by Coal Creek Canyon Fire Protection District and Mountain View Fire).
- Barges associated with O&M projects or other construction activities.

Denver Water employs ANS State Certified Inspectors.

If a boat is used elsewhere, or another boat is brought into the FERC boundary, an ANS inspection will be conducted by a certified ANS inspector. Inspectors will use the latest

procedures and protocol from CPW to conduct inspections and decontaminations (CPW^b 2020). Documentation of inspections and decontaminations will remain available for inspection by other Denver Water representatives and inspectors upon request.

A list of decontamination stations may be found on the CPW website at <http://cpw.state.co.us>. Upon removal from the water, clean, drain and dry treatment methods will be practiced.

In an emergency, if it is deemed necessary, a boat launch may be conducted having foregone an ANS inspection when a Search and Rescue or other boat/equipment is used to protect or preserve human life.

2.5.2.3 Contractors

Contractors and their subcontractors will have inspections conducted on ANY watercraft/equipment they launch into the reservoir. The contractor will use a State Certified ANS Inspector to conduct inspections and all State certifications should be current and available for inspection upon request. Inspectors will use the latest procedures and protocol from CPW to conduct inspections and decontaminations (CPW^b 2020).

Documentation of inspections and decontaminations will be retained by the contractor for inspection by Denver Water.

2.5.2.4 Live Fish Bait

Waters within the FERC boundary are above 7,000 feet in elevation and east of the continental divide. Therefore, the use of live fish bait is illegal per CPW regulations (Colorado Secretary of State, N.d.). Live crayfish as bait, or other live aquatic bait, are also not permitted.

2.5.3 Critical Control Points

Critical control points include the public “car top” boat launches at Osprey Point and the North Shore at Gross Reservoir (Appendix C). Under an agreement with Denver Water, the local sheriff patrols these and other high use recreational areas at the reservoir for illegal boat launching activities. Denver Water also has a full-time Recreation Ranger on site who regularly patrols the site.

2.5.4 Implementation Monitoring

Implementation monitoring will focus on regular auditing of the AIS Public Education Program (Section 2.4).

2.5.4.1 Surveys

In order to determine the effectiveness of the educational program, Denver Water will conduct surveys every two to three years with recreational users visiting Gross Reservoir. Results will be reported as part of the Annual Consultation Meeting with USFS Boulder Ranger District. See Appendix F for a sample of the survey questions. Modifications to the AIS Public Education Program, to incorporate recreation user feedback, will be made as necessary.

2.5.5 Actions on Discovery of AIS

The following outlines the actions to be taken upon discovery of AIS at Gross Reservoir.

2.5.5.1 Public

Members of the public are required to report any suspected invasive species to CPW's Invasive Species Program, 6060 Broadway, Denver, CO 80216. There are two options for reporting:

- State Invasive Species Program: 303-291-7295.
- USGS Sighting Report Form: <https://nas.er.usgs.gov/SightingReport.aspx>

2.5.5.2 Contractors

Should a contractor suspect the presence of AIS at Gross Reservoir, the contractor shall immediately notify Denver Water and contact one of the following:

- State Invasive Species Program: 303-291-7295.
- USGS Sighting Report Form: <https://nas.er.usgs.gov/SightingReport.aspx>

2.6 Agency Coordination

Should an AIS be detected at Gross Reservoir, Denver Water shall consult with USFS and appropriate agencies on an appropriate plan of action and shall implement the appropriate action pursuant to USFS requirements after obtaining USFS approval.

2.7 Monitoring and Reporting

2.7.1 Substrate Surveys, Plankton Tows, Shoreline Surveys

For the purposes of monitoring for the presence of ANS, Denver Water will coordinate with CPW to conduct ANS monitoring within the FERC Boundary to detect any presence of ANS. An array of monitoring techniques may be employed by CPW, but typical techniques will include plankton tows and DNA testing in the reservoir. Monitoring frequency and location will be determined by CPW. In the event that CPW does not have the resources to conduct surveys, Denver Water will work with a consultant to conduct surveys.

Upon obtaining a positive result, the extent (frequency and locations) of monitoring may change, as recommended by CPW.

Should monitoring be conducted by a consultant, the consultant will follow the Dreissenid Mussels Sampling and Monitoring Protocol established by The Western Regional Panel on Aquatic Nuisance Species (2018). Denver Water would also consider using updated versions of this document or future guidance from CPW to conduct monitoring.

Should CPW determine a higher risk of ANS at the Gross Reservoir in the future, Denver Water would encourage CPW to conduct further sampling/monitoring per the Dreissenid Mussels Sampling and Monitoring Protocol.

Monitoring will also be conducted for New Zealand Mudsnails and *Didymosphenia geminata* in accordance with CPW procedures.

Monitoring will occur in South Boulder Creek between the outfall of the Moffat Tunnel and the inlet to Gross Reservoir at Pinecliffe, location WS-RL-001. Monitoring will occur in the reservoir. Monitoring will occur at two locations in the Gross Reservoir tailwaters at locations known to Denver Water as current sampling locations WS-RL-002 and WS-RL-008, in order to capture potential ANS from the reservoir and potential introductions further downstream (see Appendix G for a map of monitoring locations). All monitoring at these locations will be conducted annually.

2.7.2 Public Use Monitoring

Denver Water and local sheriff patrollers will monitor all designated fishing and boat launch locations on Gross Reservoir. Areas identified as having boating or fishing access are in Appendix D.

2.7.3 Reporting

Denver Water will provide annual updates on the AIS Plan implementation to USFS Boulder Ranger District at the Annual Consultation Meeting. Updates will be given in a presentation and discussion format with handouts as appropriate, and may include but not be limited to:

- Estimated number of recreational fishing or boating visitors.
- Illegal motorized boat launches, if suspected.
- State Certified ANS Inspections conducted for Denver Water and contractor watercraft.
- Revisions to the AIS Public Education Plan, based on survey results and other feedback.
- Revisions to the AIS Plan.

2.8 Plan Revisions

Denver Water, in consultation with USFS and CPW, shall review, update, and/or revise the AIS Plan, as determined necessary by USFS and in consultation with CPW when substantial changes in the existing conditions occur. Changes or revisions to the plan would be expected if AIS conditions change as a result of:

- Unforeseen effects from new or existing GRE Project-related activities.
- The potential for AIS to occur.
- Changed conditions as a result of natural events such as fire or flood.
- Establishment of other regulatory or legal requirements for AIS.

Denver Water shall file all relevant documentation of coordination/consultation and the updated Plan with the Commission.

3. Invasive Plant and Noxious Weed Species Management Plan

3.1 Implementation

Upon FERC approval, this Invasive Plant and Noxious Weed Species Management Plan (IPNWS Plan) will become effective until such time as the FERC license expires or is amended.

Denver Water will begin implementation of this IPNWS Plan following completion of the GRE Project. During the construction period and until completion of the GRE Project, Denver Water will follow the noxious weed regulations for all construction equipment within the FERC boundary as defined in the U.S. Army Corps of Engineers' Section 404 Permit authorizing construction of the expanded reservoir project.

3.2 Regulatory Context

The Federal Noxious Weed Act (1974) and the Plant Protection Act (2000) were superseded by the Noxious Weed Control and Eradication Act (2004). The Noxious Weed Control and Eradication Act encourages the Secretary to establish a program to control or eradicate noxious weeds. As such, this Plan shall adopt the Weed Management Techniques and Prevention BMPs from Colorado State Parks (CSP), along with information from the Colorado Department of Agriculture's (CDA) rules and guidance developed from the Colorado Noxious Weed Act (2006) which lists invasive species and methods for control.

On National Forest System lands, noxious weeds are regulated by USFS. Denver Water roads, facilities, and infrastructure covered under this Plan are located within multiple rights-of-way on the Arapaho National Forest. Accordingly, this Plan has been developed consistent with the 2003 Arapaho & Roosevelt National Forests and Pawnee National Grassland Noxious Weed Management Plan. The overall goals of the Arapaho & Roosevelt National Forests' Noxious Weed Management Plan are: to prevent the occurrence and spread of potential new invaders and new infestations and the spread of established infestations; to implement an integrated weed management process for planning, inventory, treatment, monitoring and reporting of noxious weeds; and to raise both internal USFS and public awareness about the threat of noxious weeds.

In 2003 (and through subsequent revisions), the Colorado Noxious Weed Act was revised to include a re-categorizing of the state's noxious weed list into three lists (A, B, and C). These lists also include corresponding general priorities or goals for eradication and control. A basic explanation of the state's A, B, and C noxious weed lists and their corresponding control efforts follows:

A-listed noxious weeds are typically found in limited areas and must be promptly eradicated upon discovery. Priority = High

All populations of List A species in Colorado are designated by the Commissioner for eradication. It is a violation of these rules to allow any plant of any population of any List A species to produce seed or develop other reproductive propagules.

Prescribed management techniques must be applied to every population of List A noxious weeds present in Colorado to achieve the following objectives:

- The plants of every population of List A species must be eliminated prior to seed development.

- Once all mature plants are eliminated, appropriate efforts must be made to detect and eliminate new plants arising from seed, reproductive propagule, or root stock for the duration of the seed longevity for the particular species.
- In order to ensure that seeds or other reproductive propagules are not produced or spread, any plant with flowers, seeds, or other reproductive propagules must be placed in sealed plastic bags and disposed of by:
 - High intensity burning in a controlled environment that completely destroys seed viability;
 - Removal of plant materials to a solid waste landfill which covers refuse daily with six inches of soil or alternative material; or
 - Any other method approved by the Commissioner. (CDA n.d.)

B-listed weeds are typically localized, but could cover larger areas, and must be managed to stop their continued spread. Priority = High/Moderate

List B species must be managed in accordance with all the provisions of Part 4 of the CDA's Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act (CDA n.d.)

C-listed weeds are typically well-established, widespread, and no immediate action is required. Priority = Moderate/Low

In accordance with the "Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act", the goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species. This is a county jurisdiction and Denver Water will work with the necessary agency to ensure our operations meet with their goals for management of List C species.

For the purposes of this Plan, the CDA's list of all A, B and C species will be addressed, see Appendix I.

3.3 Geographical Scope

This Plan applies to National Forest System land within the FERC boundary (see Appendix C). Should USFS determine that noxious weed populations are introduced as a result of the Project, Denver Water will extend treatment up to ¼ mile beyond the FERC Project Boundary. If Project-related introduction(s) of noxious weeds are determined to have extended beyond ¼ mile from the FERC Project Boundary, Denver Water will consult with the USFS to determine if populations should be treated, and if so, the appropriate treatment methods.

Per Condition 30 of the FERC license, Denver Water will conduct weed management on the west side of Gross Reservoir outside the FERC Project Boundary within 100 feet of the roads and recreation facilities identified in the Road and Recreation Collection Agreement of Condition 30.

For this plan, Denver Water will conduct weed treatments within 100 feet of the following roads (see Appendix H):

- Forest Service 359.1 (Winiger Ridge Road) – approximately 2.5 miles.
- Various spur roads off Forest Service 359.1 – approximately 1.7 miles.
- Forest Service 97.1 (Lazy Z Road) – approximately 1.8 miles.

3.4 Overview of Denver Water’s Existing Weed Management Program

Based on coordination with USFS, Denver Water employs a focused weed management strategy along its network of roads, facilities, and infrastructure on National Forest System lands. Existing noxious weeds that are commonly treated by Denver Water include thistles (i.e., *Cirsium* sp.), oxeye daisy (*Leucanthemum vulgare*), and common mullein (*Verbascum thapsus*). Each year following snowmelt runoff, Denver Water coordinates with USFS (typically a phone call) to discuss upcoming noxious weed management activities planned for summer.

The USFS conducts opportunistic surveys annually while treating infestations district-wide. They do not make a focused effort to survey Denver Water maintained roads or facilities, but they do share any information they have about known infestations. Based on early season field surveys and prior years’ observations, Denver Water identifies priority areas for treatments. Denver Water takes an active role in identifying, surveying/documenting, and treating areas near its facilities.

Denver Water may use both mechanical and chemical weed treatments. For chemical herbicide applications, backpacks, pull-behinds, and 4-wheelers may be used. Consistent with USFS requirements, all chemical applications will be documented on field forms, and/or through the noxious weed identification app and archived. Denver Water continues to monitor the success of the weed treatments over the course of the growing season.

3.5 Protocol for Future Noxious Weed Treatments

With adoption of this Plan, the following protocol will be followed by Denver Water.

3.5.1 Coordination & Prioritization

In coordination with the USFS and on an annual basis, Denver Water will prioritize the treatment of noxious weeds. Denver Water will take a proactive approach to weed management and control by observing and documenting weed infestations across its road network and near its infrastructure on National Forest System lands. These observations and documentation will inform site-specific weed treatment objectives each year.

High-priority species (typically A- and B-listed species) will be designated for active management efforts aimed at eradication or control. Lower-priority species (typically C-listed species or widespread B-listed species) will be addressed through prevention efforts or less intensive management aimed at containment (see Appendix I). In general, emphasis will be placed on the feasibility of successful control treatments and on the threat the noxious weed species poses to other resources, such as special-status species. Denver Water will follow all applicable state and federal laws on noxious weed management.

3.5.2 Treatment

Denver Water will coordinate with the USFS to identify appropriate treatment methods (i.e., mechanical and chemical applications). As it is likely that the recommended methods may be revised over time, Denver Water will engage with these entities annually.

The following guidelines will be used to define approaches to noxious weed management under this Plan (**Table 1**).

Table 1. Guidelines for Denver Water’s Noxious Weed Management

CDA Weed List	Plan Priority	Management Guidelines*
List A	High	Implement weed prevention BMPs and follow the USFS’s annual treatment recommendations. If found, eradicate.
List B (localized)	High/Moderate	Implement weed prevention BMPs and follow the USFS’s annual treatment recommendations. If found, eradicate or contain.
List B (widespread) and List C	Moderate/Low	Implement weed prevention BMPs and follow the USFS’s annual treatment recommendations. If found, contain; and if warranted, localize treatment near sensitive resources.

Source: CDA

Management efforts will be in compliance with USFS and CDA regulations.

3.5.3 Noxious Weed Prevention

Preventing the introduction and spread of noxious weeds at Denver Water roads, facilities, and infrastructure on National Forest System lands is a principal goal of this Plan. Common ways human activities cause the spread of noxious weeds include (but are not limited to):

- Bulk seed is contaminated.
- Contaminated hay or straw (hitchhikes in/on).
- Seeds attached to clothing, footwear, or tires on vehicles and equipment (which then detach or fall off in a new location).
- Seeds or viable fragments embedded in topsoil, mulch, or fill.

3.5.4 Best Management Practices

The most practical, cost-effective means of weed control is to use preventative control methods to stop all weeds from invading an area (Colorado State Parks, 2005). Denver Water will perform all Operations and Maintenance (O&M) activities according to the following general list of BMPs. Additional, site-specific BMPs may be imposed on specific projects on a case-by-case basis, including:

- Minimize ground disturbing activities.
- Use ONLY USFS-certified non-agricultural mulch and materials (i.e., wood or coconut fiber) for all disturbed sites, including construction and erosion control.
- Disturbed areas will be graded to local contours, and reseeded, as appropriate.
- If weeds are present, prioritize treatment before disturbance occurs.

- Thoroughly clean all heavy construction equipment before entering construction sites on National Forest System lands to minimize the introduction and spread of seeds of noxious weeds. Construction vehicles traveling along roads will be free of excess soils and plant materials.
- Treat project areas for noxious weeds at least two weeks prior to ground disturbance. Treatment of infestations will typically occur in July and/or August until the project is completed.

3.6 Tracking & Reporting

Denver Water will begin tracking noxious weed applications digitally, with a Global Positioning System (GPS) application. Digital data collection will be done in accordance with USFS spray log requirements. All information will be stored in a Geographical Information System (GIS) database, which will eliminate the need to manually fill out field forms or provide a written report.

Denver Water will provide a summary of the previous year's weed treatments in GIS file format to the USFS by October 15 of each year. Denver Water will also provide the associated GIS shapefile data on the noxious weed treatment efforts. The Annual Consultation Meeting, required per Condition 13 of the FERC license, is to be held by April 15 each year. Denver Water will also provide the associated GIS shapefile data on the noxious weed treatment efforts.

The GIS data files shall be updated annually to include the following types of information. *This list is not comprehensive and may be adjusted, as needed.*

- Noxious weed management efforts completed.
- Shapefiles identifying the locations of treatments completed that year.
- Documentation of newly observed noxious weed species or occurrences.
- Attribute information identifying the date, treatment and applications, and observations, consistent with USFS spray log requirements.

3.7 Internal Education

Internal education will be achieved by providing documentation and training to Denver Water's Source of Supply (SOS) and Recreation staff. Information will be provided to contractors Denver Water hires to inform them of methods to prevent the introduction and spread of noxious weeds.

Materials may include documents such as Standard Operating Procedures (SOPs) and work plans which follow the guidelines for prevention (Section 3.5.3), and detection and treatment (Section 3.5.2).

3.8 Adaptive Management

Should additional invasive plant and/or noxious weed species become listed, this Plan will be updated to include the additional species.

Based upon the location, and the species that are found, appropriate actions will be taken in coordination with USFS and CPW.

Additional areas may be considered for surveying based on findings. Frequency of surveying may be altered and methods of detection and treatment may be applied based on the tools/methods identified in this Plan and any other tools later identified and approved by USFS and CPW.

3.9 Plan Revisions

Denver Water, in consultation with USFS, shall review, update, and/or revise the IPNWS Plan as determined necessary by USFS, subject to prior review and approval by USFS, if changes in invasive plant and noxious weed species management occur on National Forest System land. Changes or revisions to the Plan would be expected if invasive plant and noxious weeds conditions change as a result of:

- Unforeseen effects from new or existing Project-related activities.
- The potential for new invasive plants and noxious weeds occurs or changes.
- Changed conditions due to natural events such as fire or flood.
- Establishment of other regulatory or legal requirements.

Denver Water shall include all relevant documentation of coordination/consultation with the updated Plan filed with the Commission.

4. References

- CDA. 2016. "Early Detection Rapid Response Framework and Implementation Plan." Accessed 10/10/18. https://doc-0o-a0-apps-viewer.googleusercontent.com/viewer/secure/pdf/3nb9bdfcv3e2h2k1cmql0ee9cvc5lole/d25u4ol1sbr1c7gf1m1pr4sqi7h4oi3q/1539191100000/drive/*/ACFrOgCkdLTp-jmA_y-8ZDzd9vTFPdCCfr9tjRoXSGQj9dMoerUHth30Ya5a7xPGDRSkp3IHuoUZ-sEr-ZvHzV7KoddPzSaBRx_LGcmpvWxYbrwAljX6CJfdmzrbRI=?print=true
- CDA. 2020. "Colorado Noxious Weeds (including Watch List), effective October, 2020." Accessed 5/7/21. <https://drive.google.com/file/d/0Bxn6NtpJWc9JRFE3LW1RWFVXY1E/view>
- CDA^a. 2018. "Noxious Weed Species." Accessed 10/10/18. <https://www.colorado.gov/pacific/agconservation/noxious-weed-species>
- CDA^b. 2018. "Spotter Form." Accessed 10/10/18. <https://www.colorado.gov/pacific/agconservation/spotter-form>
- CDA. n.d. "Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act." Accessed 5/18/21. <https://ag.colorado.gov/sites/ag/files/documents/1206-2%20Final%20Website.pdf>
- CDFW. 2017. "Quagga/Zebra Mussel Surface Survey Protocol." Accessed 10/3/18. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=4948&inline>
- CDO. 2009. "Aquatic Nuisance Species (ANS) Watercraft Inspection Handbook." Accessed 10/1/18. <https://cpw.state.co.us/Documents/ANS/COANSInspectionHandbook.pdf>
- Colorado Department of Natural Resources, Colorado State Parks et al. 2008. "Lake Pueblo Zebra Mussel Response Plan." Accessed 9/28/18. <http://cpw.state.co.us/Documents/ResourceStewardship/PuebloResponsePlanFinal.pdf>
- Colorado Secretary of State. N.d. "Code of Colorado Regulations". Accessed 2/19/21. <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=120>
- Colorado State Parks. 2005. "Weed Management Techniques and Prevention BMPs." Accessed 9/28/18. <http://cpw.state.co.us/Documents/ResourceStewardship/WeedMgtTechPreventionBMP.pdf>
- CPW. 2009. "State of Colorado Zebra and Quagga Mussel Management Plan." Accessed 10/1/18. <https://cpw.state.co.us/Documents/ANS/ColoradoMusselManagement.pdf>
- CPW. 2014. "State Aquatic Nuisance Species (ANS) Program Summary for Colorado Legislators per SB 08-226." Accessed 10/11/18.

<https://www.colorado.gov/pacific/sites/default/files/Aquatic%20Nuisance%20Species%20Program%20LegislativeReport-January2014-FINAL.pdf>

CPW. 2018. "2018 Colorado Fishing." Accessed 10/10/18.

<https://cpw.state.co.us/Documents/RulesReqs/Brochure/fishing.pdf>

CPW^a. 2020. "State of Colorado Aquatic Nuisance Species Management Plan." Accessed 5/7/21. <https://cpw.state.co.us/Documents/ANS/CO-ANS-Management-Plan.pdf>

CPW^b. 2020. "Official State Watercraft Inspection and Decontamination (WID) Protocols and Procedures." Accessed 5/7/21.

<https://cpw.state.co.us/Documents/ANS/WIDStudentCurriculum.pdf>

CPW^a. n.d. "Protect Colorado's Lands and Waters". Accessed 9/26/18.

<http://cpw.state.co.us/Documents/RulesReqs/Brochure/CPW-ANSAudienceBrochure.pdf>

CPW^b. n.d. "Top Invasive Concerns: Noxious Weeds." Accessed 10/5/18.

<https://cpw.state.co.us/aboutus/Pages/ISP-Noxious-Weeds.aspx>

FERC. 2001. "Order Issuing New License". Accessed 2/24/21.

<https://denverwater.sharepoint.com/EN/engineering/safety/moffatCollection/Documents/Forms/AllItems.aspx?id=%2FEN%2Fengineering%2Fsafety%2FmoffatCollection%2FDocuments%2FRegulatory%2FFERC%2FFERC%20Orders%2F2001GrossFERCLicense%2Epdf&parent=%2FEN%2Fengineering%2Fsafety%2FmoffatCollection%2FDocuments%2FRegulatory%2FFERC%2FFERC%20Orders>

New Zealand Mudsnail Management and Control Plan Working Group. 2007. "National Management and Control Plan for the New Zealand Mudsnail." Accessed 9/28/18.

https://www.anstaskforce.gov/Documents/NZMS_MgmtControl_Final.pdf

The Western Regional Panel on Aquatic Nuisance Species. 2018. Dreissenid Mussels Sampling and Monitoring Protocol.

USDA. 2018. "Introduced, Invasive, and Noxious Plants". Accessed 9/25/18.

<https://plants.usda.gov/java/noxious?rptType=State&statefips=08>

USFS. 2009. "Rocky Mountain Region Invasive Species Management Strategy." Accessed 10/12/18. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5172608.pdf

This page intentionally left blank.

Appendix A:

USFS Invasive Species Management Plan Approval Letter

This page intentionally left blank.



File Code: 2770
Date: July 2, 2021

Melissa Brasfield
Communications Specialist
via email
grossreservoir@denverwater.org

Dear Ms. Brasfield:

According to Articles 416, 422 and 423 of the Federal Energy Regulatory Commission Order Amending and Extending License Term dated July 16, 2020, Denver Water submitted final Recreation Management, Invasive Species Management and 2021 Tree Removal Plans, respectively, to the Forest Service for approval. The final Recreation Management Plan was submitted on June 29, 2021, the final Invasive Species Management Plan was submitted on June 9, 2021, and the final 2021 Tree Removal Plan was submitted on June 10, 2021.

I appreciate the opportunity to review and comment on the draft plans prior to our final review of the plans.

I am approving the final Invasive Species Management Plan as submitted on June 9, 2021, and the 2021 Tree Removal Plan as submitted on June 10, 2021. The final Recreation Management Plan, submitted on June 29, 2021, satisfies condition 24 of the Gross Reservoir license amendment.

If you have any questions, please contact Mike Johnson at 970-531-9609 or at Michael.johnson6@usda.gov

Sincerely,

MONTE
WILLIAMS

Digitally signed by
MONTE WILLIAMS
Date: 2021.07.02
15:04:10 -06'00'

MONTE WILLIAMS
Forest Supervisor



Appendix B:

Stakeholder Coordination and Review

This page intentionally left blank.

Invasive Species Management Plan Agency Comment Matrix

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
Colorado Parks & Wildlife (CPW)					
CPW-01	Definitions	iv	Exempt Boat – State Regulation states “Hand Launched AND Hand Powered”. Could read “Not Launched from a trailer and does not have a gas or electric motor”	Denver Water appreciates the comment and accepts the changes to the definitions.	Definition was updated to use wording per suggested comment.
CPW-02	2.5.1	2-3	We also have Brazilian Egeria present in Colorado.	We agree that the Brazilian Egeria should be added to an updated list.	Brazilian Egeria was added to the bulleted list of top AIS concerns in Colorado. See also comment BC-03, below.
CPW-03	2.5.2.1	2-3	The same definition of exempt is used on this page as addressed in comment 1.	See Comment CPW-01.	Changed sentence from: “those that are not trailered vessels OR do not have a gas motor” to read: “those that are not launched from a trailer and do not have a gas or electric motor”
US Fish & Wildlife Service (USFWS)					
USFWS-01	2.4.3		When will AIS information be added to the Denver Water Gross Reservoir website? No AIS information currently exists on https://www.denverwater.org/recreation/gross-resevoir	Denver Water has updated the webpage URL provided with information from CPW. Attached link: https://www.denverwater.org/recreation/gross-resevoir	The URL provided was updated to include ANS information.
USFWS-02	2.5.2.2 and 2.5.2.3		Both paragraph cover ANS staff inspecting watercraft. 2.5.2.2. is Denver Water watercraft while 2.5.2.3 covers contractor watercraft. In the event the AIS inspector learns that watercraft in either category contractor or subcontractor boat have traveled to Gross Reservoir from an	Most recent procedures and protocol provide for inspection as well as decontamination. CPW’s “Official State Watercraft Inspection and Decontamination (WID) Protocols and Procedures”	Section 2.5.2.2 and 2.5.2.3: “Inspectors will use the latest procedures and protocol from CPW to conduct inspections and decontaminations (CPW ^b 2020).”

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			infested waterbody or watercraft were unable to be properly drained and dried, the inspector may need to decontaminate the watercraft prior to launch. This paragraph only refers to inspections. Suggest adding text to both paragraphs that allows the State Certified ANS Inspector to decontaminate the watercraft when inspection results deem it necessary.	publication outlines requirements for inspection and decontamination. See also comment BC-04, below.	Documentation of inspections and decontaminations will be retained and made available.
USFWS-03	2.5.5.1		The 1-877-STOP-ANS line is no longer functioning. The federal link for reporting a possible ANS species is the USGS Sighting Report Form at https://nas.er.usgs.gov/SightingReport.aspx	Denver Water has updated reporting contact numbers/methods with the references provided.	Federal ANS Hotline was removed and USGS Sighting Report Form link was added. CPW's website was also removed. This was applied to section 2.5.5.1 as well as 2.5.5.2.
USFWS-04	Appendices – ANS Survey		Earlier in the document the ANS Education program was outlined to include web page information, leaflets and signage. The survey only asks water users if they've seen the signage. No evaluation of the web page or leaflet tools is made with the proposed survey as written.	This survey was intended for use on-site and therefore applicable to signage and leaflets. Leaflets will be from CPW for purposes of consistent messaging, so their content is out of the control of Denver Water, but their placement and visibility could be considered as part of the effectiveness of the program. The questions about signage now include the leaflets also. Questions about the use and effectiveness of the ANS information on the website were added with two additional questions.	Added leaflet to wording of questions alongside signage. Created two new questions to address effectiveness of the website: “Did you view ANS information on Denver Water’s Gross Reservoir Recreation website before your visit?” “If yes, how useful would you rate the information provided about ANS on the website?”.
Boulder County (BC) – Parks & Open Space – Jeff Moline – S-13					
BC-01	2.5.1		Section 2.5.1 lists these species as “top AIS concerns” by CPW: New Zealand	Guidance was from reference: CPW ^b . n.d. “Top Invasive Concerns:	Section 2.5.1 was revised to incorporate the updated list of

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			<p>Mudsnail, Rusty Crayfish, Waterflea, Zebra and Quagga Mussels.</p> <p>a. Unclear what CPW guidance was cited. Provide citation.</p>	<p>Noxious Weeds.” Accessed 10/5/18. https://cpw.state.co.us/aboutus/Pages/ISP-Noxious-Weeds.aspx</p>	<p>ANS from CPW 2020 citation. See comment BC-03, below.</p>
BC-02	5.1.1.1.3		<p>Appendix 5.1.1.1.3 “List of Aquatic Invasive Species” are taken from “USDA 2017”.</p> <p>a. A note about “Colorado species of concern” is provided, however, spiny water flea was not included.</p>	<p>Spiny water flea was included as part of the update from comment BC-03, below.</p>	<p>Tables in plan were replaced with updated tables from the 2020 State of Colorado Aquatic Nuisance Species Management Plan.</p>
BC-03	5.1.1.1.3		<p>A new reference from CPW should be included, and “Priority” animal and plant species in this document should be reviewed for inclusion in this management plan.</p> <p>a. 2020 State of Colorado Aquatic Nuisance Species Management Plan, https://cpw.state.co.us/Documents/ANS/CO-ANS-Management-Plan.pdf</p> <p>b. Significant changes and additions were made to the Colorado list of priority aquatic nuisance animal and plant species of concern.</p> <p>c. There are two species of water fleas that should be called out.</p> <p>d. The primary animal species remain nearly the same, but there are many secondary species we request you consider.</p> <p>e. There are many priority aquatic plant species, but none were called out as “top” aquatic invasive species for introduction potential.</p> <p>f. Applicant should refer to Tables on pages 29-32.</p>	<p>Denver Water acknowledged these comments and made necessary adjustments to the tables listed.</p>	<p>a & b. The priorities lists were added in the appendix of the plan.</p> <p>c. The two species of water flea are included in the tables taken from the priorities list. Section 2.5.1 was updated to include the Fishhook Water Flea, Spiny Water Flea, Brazilian Egeria, Eurasian Watermilfoil, and Water Hyacinth with updated citation to CPW 2020. Addition of wording to acknowledge the increased potential for introduction of those species.</p> <p>d. Secondary species identified in the 2020 State of Colorado Aquatic Nuisance Species Management Plan were added to the appendix.</p> <p>e. Those aquatic nuisance plants from the primary aquatic nuisance plant list that are present in Colorado were called out to have increased introduction potential.</p>

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
					f. References included
BC-04	5.1.1.1.4		5.1.1.1.4 ANS Inspection Checklists – appears dated, from CDOW 2009. a. There might be a new version; we request you investigate and use if available: Source: CDOW. 2009. https://cpw.state.co.us/Documents/ANS/COANSInspectionHandbook.pdf	In 2009, DNR published the “Colorado Watercraft Inspection and Education Handbook”. In 2013, CPW published the “Colorado ANS Curriculum for Watercraft Inspectors and Decontaminators”. The 2009 publication was revised on March 1, 2020 and includes procedures for inspection and decontamination. Denver Water has updated references to the most recent document.	Checklists in Appendix 5.1.1.1.4 were removed. Reference made to the latest procedures for inspection and decontamination were made in sections 2.5.2.2 and 2.5.2.3, see comment USFWS-02, above.
BC-05			From the application, Denver Water has committed to develop an Invasive Plant and Noxious Weed Species Management Plan for Forest Service lands in consultation with the USFS. Staff recommends that a similar plan be prepared for Denver Water lands inside the project area.	Per the FERC Order (Condition 17), Denver Water is required to prepare and submit an Aquatic Invasive Species/Noxious Weed Plan. Denver Water provided the plan to Boulder County on March 15, 2021. The final plan will be submitted for approval to FERC by July 16, 2021. Denver Water will include Denver Water lands within the FERC Project boundary in the Aquatic Invasive Species/Noxious Weed Plan.	No changes needed.
US Forest Service					
USFS-01	2.7.1		Actual monitoring included is limited to zebra/quagga mussels and larvae in the reservoir only.	See comment response USFS-03.	See edits provided in USFS-03.
USFS-02	2.7.1		The monitoring plan does not include tributary streams, even though the condition calls for it.	WS-RL-001 to be monitored annually for ANS.	Added to section 2.7.1: “Monitoring will occur in the South Boulder Creek between the outfall of the Moffat Tunnel and the inlet to the Gross

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
					Reservoir at Pinecliff, location WS-RL-001.”
USFS-03	2.7.1		The condition does not limit the AIS species monitored. The monitoring plan does not include surveying for other AIS, such as New Zealand mud snails and didymosphenia geminata, which are AIS species already present in lower reaches of Boulder Creeks near the City of Boulder. These two species should be surveyed for in South Boulder Creek from Moffat Tunnel portal to the reservoir.	Denver Water will work with CPW to conduct monitoring or hire a consultant to do so, following CPW procedures, for NZ Mudsnaills and didymo in addition to the monitoring for zebra and quagga mussels.	Monitoring for NZ Mudsnaills and didymo have been added to section 2.7.1, alongside Dreissenid Mussels.
USFS-04	2.7.1		Given the hydrology changes to flows in lower South Boulder Creek downstream of Gross Reservoir, the AIS plan may need to include AIS monitoring in the tailwater reaches of South Boulder Creek. New Zealand mud snails and didymosphenia may increase in abundance due to local inadvertent introductions or changes in flow regulation from Gross Reservoir outflows.	Monitoring for AIS will occur at WS-RL-008 and WS-RL-002, annually.	Added to section 2.7.1: “Monitoring will occur at two locations in the Gross Reservoir tailwaters at locations known to Denver Water as current sampling locations WS-RL-002 and WS-RL-008, in order to capture potential ANS from the reservoir and potential introductions further downstream.”
USFS-05	5.1.1.1.2		Locations as shown may be sufficient and provide a great starting place; but, sign locations in parking areas may need to be adjusted to ensure that visitors see them and have an opportunity to comply.	Signs are planned at six locations. Five of which are at parking lots around the reservoir. One is at the Fisherman’s parking lot where the South Boulder Creek is accessible downstream of the reservoir. Changes will be guided by feedback from surveys about the Public Education Program.	Map of the Jumbo Mountain Picnic Ground with ANS sign location was removed. New map was created to show the location of the ANS signage at the Fisherman’s parking lot. Haul Road Rec Area parking lot had an extra sign added at the access to both trails.
USFS-06			Anywhere parking opportunities are being managed or developed may need signage.	While the plan meets the requirements of Condition 17 to have five signs, the effectiveness of	No changes needed.

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
				the program will be driven by the Public Education program survey feedback. Each location was chosen based on capturing as many visitors' attention as possible near to fishing/common boating access	
USFS-07	2.4.1		Unless it was missed in the plan, it is 1) unclear if there are limitations to where any type of boat/watercraft can be launched or if they can be launched anywhere. If there are no limitations on where boats can be launched, is there a plan to add signage at other locations as necessary? Or can these limitations be put in place to manage where people are accessing water? (these may be identified in the Recreation Management Plan or Adaptive recreation management Plan and/or trails inventory). and 2) is the only concern boats/watercraft or is there concerns over wading boots/etc? If we are only concerned about boats/watercraft, then I think this is covered. Perhaps the adaptive management would drive the need for those with wading boots. In this event, there could be a need to update the locations and create additional signage.	1) Hand launching boats can be done anywhere a visitor chooses, just by the nature of the ease of hand launching, making enforcement difficult. As visitors intending to hand launch boats will originate from parking lot locations, signage is planned to be placed at the parking lots. 2) At this stage, the main concern is with boats/watercraft. Clean, drain, dry guidance will apply to all equipment though. Section 2.4.1 says "Signage will consist of:...How to inspect watercraft/fishing equipment...the importance of cleaning, draining, drying equipment or vessels entering waterways..."	No changes needed.
USFS-08	5.1.1.1.2 and 2.4.1		Lastly – I am unsure of the need for the "Jumbo Mountain Site." This site, from a recreational management perspective, is on a glide path to removing infrastructure and adding a sign may not fit the development scale. Also, there is very limited opportunity for access on National Forests System lands (maybe a few	We spent some time attempting to find a location where there may be opportunity for access to South Boulder Creek upstream of Gross Reservoir to have one of the five required signs placed. As the Jumbo Mountain site is removing infrastructure, placement of the sign	The fifth signage location was added to fisherman's parking lot. Removed Jumbo Mountain from the list of signage locations. Section 2.4.1 was edited to remove the sentence: "Signage

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			hundred feet/yards at best). This also begs the question about watercraft or wading.	would better serve the purposes of the plan by being located at the Fisherman's access parking lot near the South Boulder Creek downstream of the reservoir. Signage would include clean, drain, dry guidance for equipment to include waders.	will be placed where designated public fishing and boat launches exist on South Boulder Creek upstream of Gross Reservoir to the Moffat Tunnel."
USFS-09	3.2	3-1	The Arapaho & Roosevelt National Forests and Pawnee National Grassland Noxious Weed Management Plan was actually from 2003. The EA was from 2001.	Denver Water acknowledged this comment and made the necessary change.	Changed 2001 to 2003.
USFS-10	3.2	3-1	This is a good summarization of the ARNF Noxious Weed Management Plan. It should be recognized that prioritization of treatment doesn't necessarily follow the CDA strategy.	See response in comment USFS-11 to align with the CDA strategy.	See edits provided in USFS-11.
USFS-11	3.2	3-1	<p>The use of the verb should is inappropriate for list A. CDA uses the verb "must" From CDA "Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act" https://ag.colorado.gov/sites/ag/files/documents/1206-2%20Final%20Website.pdf All populations of List A species in Colorado are designated by the Commissioner for eradication.</p> <p>3.3. It is a violation of these rules to allow any plant of any population of any List A species to produce seed or develop other reproductive propagules.</p> <p>3.4. Prescribed management techniques must be applied to every population of List A noxious weeds present in Colorado to achieve the following objectives:</p>	Denver Water acknowledged this comment and made the necessary change. Incorporated the CDA language into the Plan with recognition that the CDA language is a convenience, knowing that the language of the Act may be found from http://www.sos.state.co.us/CCR/Welcome.do .	<p>A-listed noxious weeds now say they "must" be promptly eradicated.</p> <p>Added to section 3.2: "It is a violation of these rules to allow any plant of any population of any List A species to produce seed or develop other reproductive propagules."</p> <p>Also added to section 3.2 was the references text from the CDA's publication, Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act: "Prescribed management techniques must be applied to</p>

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			<p>3.4.1. The plants of every population of List A species must be eliminated prior to seed development.</p> <p>3.4.2. Once all mature plants are eliminated, appropriate efforts must be made to detect and eliminate new plants arising from seed, reproductive propagule, or root stock for the duration of the seed longevity for the particular species.</p> <p>3.4.3. In order to ensure that seeds or other reproductive propagules are not produced or spread, any plant with flowers, seeds, or other reproductive propagules must be placed in sealed plastic bags and disposed of by:</p> <p>3.4.3.1. High intensity burning in a controlled environment that completely destroys seed viability;⁴</p> <p>This copy of the text of the rules "Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act" is provided as a convenience to the public by the Colorado Department of Agriculture and does not constitute an official publication of these Rules. The official version of these Rules is published by the Office of the Secretary of State in the Colorado Code of Regulations at 8 CCR 1206-2 and may be obtained from the following website: http://www.sos.state.co.us/CCR/Welcome.do.</p>		<p>every population of List A noxious weeds present in Colorado to achieve the following objectives:</p> <ul style="list-style-type: none"> • The plants of every population of List A species must be eliminated prior to seed development. • Once all mature plants are eliminated, appropriate efforts must be made to detect and eliminate new plants arising from seed, reproductive propagule, or root stock for the duration of the seed longevity for the particular species. • In order to ensure that seeds or other reproductive propagules are not produced or spread, any plant with flowers, seeds, or other reproductive propagules must be placed in sealed plastic bags and disposed of by: <ul style="list-style-type: none"> o High intensity burning in a controlled environment that completely

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			<p>3.4.3.2. Removal of plant materials to a solid waste landfill which covers refuse daily with six inches of soil or alternative material; or</p> <p>3.4.3.3. Any other method approved by the Commissioner.</p>		<ul style="list-style-type: none"> o destroys seed viability; o Removal of plant materials to a solid waste landfill which covers refuse daily with six inches of soil or alternative material; or o Any other method approved by the Commissioner.”
USFS-12	3.2	3-1	<p>The use of the verb "should" is inappropriate for list B. CDA uses the verb "must" From CDA "Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act" https://ag.colorado.gov/sites/ag/files/documents/1206-2%20Final%20Website.pdf List B species must be managed in accordance with all the provisions of this Part 4</p>	<p>Denver Water acknowledged this comment and included the reference to the “Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act” Part 4 in order to manage List B species.</p>	<p>B-listed noxious weeds now say they “must” be managed to stop their continued spread.</p> <p>“List B species must be managed in accordance with all the provisions of Part 4 of the CDA’s Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act (CDA n.d.)”</p>
USFS-13	3.2	3-1	<p>This is also a bit of a understatement. From CDA "Rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act" https://ag.colorado.gov/sites/ag/files/documents/1206-2%20Final%20Website.pdf</p>	<p>While List C species are difficult to contain and elimination is unlikely, we will reference the document with recognition that the jurisdiction for management is with the county.</p>	<p>Referenced document. The following paragraph was added to the section on List C species: “In accordance with the “Rules pertaining to the administration and enforcement of the Colorado</p>

Comment ID	Section Number	Page Number (or Figure Number)	Agency Comment	Denver Water Response	Denver Water Edits to Final Invasive Species Management Plan
			List C noxious weed species; "The goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species." Obviously, from this it is the county's jurisdiction to determine the level of management, not Denver Water, nor CDA.		Noxious Weed Act", the goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species. This is a county jurisdiction and Denver Water will work with the necessary agency to ensure our operations meet with their goals for management of List C species."
USFS-14	3.2	3-2	This statement is confusing when compared to the previous text. Are you saying that you are only recognizing those plants defined under the 2003 state law? There have been many changes since then. Also, the ARP Weed Management Plan isn't 100% in parody with the state lists, or with treatment priorities.	We are recognizing all weeds listed under CDA's List A, B, and C species, effective October 2020.	Added to Section 3.2: "For the purposes of this Plan, the CDA's list of all A, B and C species will be addressed, see Appendix A.6."
USFS-15	3.5.1	3-3	I think this part is great.	Denver Water acknowledged this comment.	No changes needed
USFS-16	3.6	3-4	Treatment data for invasives needs to be reported to USFS program contact the same fiscal year it is accomplished, preferably prior to October 15.	We will submit GIS data by October 15 each year.	Edits to section 3.6

Copy of Agency Comments provided to Denver Water

Denver Water provided a template to agencies to aid in the review of agency comments. Some agencies provided comments using the template and some agencies provided Denver Water with comments in either email or letter form. Below are copies of all letters received by required agencies.

Invasive Species Management Plan

Agency Comment Matrix

Please provide your agency's comments in the template provided below. Example entries provided for reference.

Agency/Department: Colorado Parks & Wildlife

Date of comments: 4/16/2021

Section Number	Page Number (or Figure Number)	Comment
<i>Definitions</i>	<i>iv</i>	<i>Exempt Boat – State Regulation states “Hand Launched AND Hand Powered”. Could read “Not Launched from a trailer and does not have a gas or electric motor”</i>
<i>2</i>	<i>2 - 3</i>	<i>We also have Brazilian Egeria present in Colorado.</i>
2	2 – 3	The same definition of exempt is used on this page as addressed in comment 1.

134 Union Blvd, Ste 665
Lakewood, CO 80228
303-236-4519 (office)
303-842-5268 (cell)

From: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Sent: Wednesday, April 21, 2021 7:18 AM
To: Ellwood, Leslie <leslie_ellwood@fws.gov>
Subject: RE: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Leslie,

Thanks for the update. We do have a hard deadline for comments of April 29. Anything past that date and we may not be able to incorporate it into the final round of updated before the final plans goes to the US Forest Service and Federal Energy Regulatory Commissioner for approval.

The Recreation Plans should be the last plans we have for US Fish & Wildlife review in 2021. There are a handful of plans due to FERC in 2022 but I don't recall if those require US Fish & Wildlife review. I will confirm and let you know if any of them do.

Hope this helps.

Thanks,
Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org



From: Ellwood, Leslie <leslie_ellwood@fws.gov>
Sent: Tuesday, April 20, 2021 6:50 PM
To: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Subject: Re: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Melissa,

Thanks for your email. I've passed the Invasive Species Mngt Plan on to one of our specialist in that field. She and I have had some emails back and forth but I still need to confirm with her when she thinks she can have her review done. I'll check again and will get back with you.

Yes, I did receive the copy of the recreation management plan from Drew. I will be the one to review that. You can coordinate directly with me and do not need to send anything to Drew.

Do you anticipate additional plans that will need our review?

Thanks,
Leslie

From: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Sent: Tuesday, April 20, 2021 3:32 PM
To: Ellwood, Leslie <leslie_ellwood@fws.gov>
Subject: RE: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Leslie,

I hadn't heard back on this and wanted to check in to see if we can expect comments from Fish & Wildlife tomorrow? If not, do you have an updated date? We are trying to plan out review of those agency comments and any potential updates to the plan that may be needed.

I also wanted to ask, I had sent the Draft Recreation Management and Monitoring Plans out to Fish & Wildlife Service to Drew DeBerry late last week but I have not received confirmed that he received them. Are you a better person to send those two plans to? If so, I will forward them over for your agency review.

Thank you,
Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org



From: Brasfield, Melissa
Sent: Wednesday, April 14, 2021 3:51 PM
To: Ellwood, Leslie <leslie_ellwood@fws.gov>
Subject: RE: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Leslie,

Thank you for reaching out and letting us know you are still working on your agency's review of the Invasive Species Management Plan.

We currently have a number of plans under review and development in order to meet deadlines to submit completed plans to FERC by July 16, 2021. We want to make sure we incorporate as much agency comments as possible into these plans while still meeting the FERC deadlines.

Do you think you might have something to us by next Wednesday, April 21? If not, please let me know as we would like to incorporate comments into the final plans.

Thanks,
Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org



From: Ellwood, Leslie <leslie_ellwood@fws.gov>
Sent: Tuesday, April 13, 2021 5:53 PM
To: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Subject: Fw: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Melissa,

I wanted to let you know that we're reviewing this plan but will need more time. I will have to get back with you on a date on when we expect to have our review completed.

Thank you,
Leslie

From: Niva, Liisa M <Liisa_Niva@fws.gov>
Sent: Tuesday, March 16, 2021 3:56 PM
To: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Cc: Ellwood, Leslie <leslie_ellwood@fws.gov>
Subject: Re: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Melissa -

Thank you for sending this. Leslie Ellwood will be reviewing the document (copied here) and will be in touch with any questions.

- Liisa

Liisa M. Hernandez Niva (she/her/hers - [what's this?](#))
Acting Colorado ES Field Supervisor
U.S. Fish & Wildlife Service || Colorado ES Field Office - Lakewood
Mobile (calls & texts): 303/905-4543

"In our world, divide and conquer must become define and empower." - Audre Lorde

From: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Sent: Tuesday, March 16, 2021 2:19 PM
To: DeBerry, Drue <drue_deberry@fws.gov>
Cc: Niva, Liisa M <Liisa_Niva@fws.gov>
Subject: RE: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Great, thank you!

Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org



From: DeBerry, Drue <drue_deberry@fws.gov>
Sent: Tuesday, March 16, 2021 3:17 PM
To: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Cc: Niva, Liisa M <Liisa_Niva@fws.gov>
Subject: Re: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Hi Melissa,

We received it. You will hear back from Liisa Niva or someone from her team.

Thanks,

Drue DeBerry
Deputy Assistant Regional Director, Ecological Services
Mountain-Prairie Region
U.S. Fish and Wildlife Service
Office: 303-236-4774
Cell: 703-472-7777
drue_deberry@fws.gov

From: Brasfield, Melissa <Melissa.Brasfield@denverwater.org>
Sent: Tuesday, March 16, 2021 1:44 PM
To: DeBerry, Drue <drue_deberry@fws.gov>
Subject: [EXTERNAL] FW: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Good afternoon Drew,

I wanted to ensure you received the attached Draft Invasive Species Management Plan and comment template for Gross Reservoir. Please confirm receipt or let me know if you have issues with the attached file.

Thank you,
Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org



From: Brasfield, Melissa
Sent: Monday, March 15, 2021 5:10 PM
To: drue_deberry@fws.gov
Subject: Denver Water Gross Reservoir Expansion Invasive Species Management Plan

Dear Mr. DeBerry,

Please find attached Denver Water's Draft Invasive Species Management Plan (March 15, 2021) for Gross Reservoir for your agency's review. We are requesting your agency's review only of Section 2: Aquatic Invasive Species Management and Monitoring Plan. The deadline for your agency's comments on Section 2 of this plan is **April 14, 2021**. The final plan will be submitted to FERC, per Article 422, for review and approval on or before July 16, 2021.

Please confirm receipt of this message.

If you have any questions on this letter, please contact me directly. Thank you again to you and your colleagues for your feedback on Denver Water's Draft Invasive Species Management Plan.

Melissa

Melissa Brasfield | Communications Specialist
Gross Reservoir Expansion Project
Denver Water | t: 303-628-6348 | d: 303-628-6664
denverwater.org | denverwaterTAP.org





Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

TO:	Summer Frederick, Planning Manager, CPP
FROM:	Jeff Moline, Resource Planning Manager
RE:	SU-20-001, Gross Reservoir Expansion Resubmittal
DATE:	3-29-21

Boulder County Parks & Open Space staff has reviewed the applicant's responses to the department's original referral comments. Staff provides the following added comments corresponding to the numbered responses provided by the applicant in Exhibit 19, where warranted. In some of the applicant's responses, they either disagree with or have declined our original request for resource information. Where that information would be critical to assessing the project's impact on 1041 criteria, staff cannot determine if the project will have significant impacts on those particular environmental resources.

S-3. In this response Denver Water notes that Colorado Parks & Wildlife and other state agencies find the proposed mitigation measures of the project sufficient to protect fish and wildlife resources. However, BCPOS does not find the application complete enough with respect to the survey of fish and wildlife species to ensure that 1041 standards are met. BCPOS has provided a list of species of concern for the project location and without field surveys for these resources, cannot assure the project can meet the standards for 1041. BCPOS does not have additional information about which species may or may not occur on the property. Without knowing the impacts to the resources, we cannot determine if the proposed mitigation is suitable, adequate, and appropriate.

S-4. Staff appreciates the additional information on the Toll Property. The site does have important biodiversity values according to the Colorado Natural Heritage Program. Staff has not had an opportunity to visit the property or confirm these values in the field. Additionally, we understand that the U.S. Forest Service (USFS) will have management authority over the parcels in the near future. The site may need considerable management and protection efforts in order to protect the important biodiversity features.

S-5. We appreciate that other agencies have provided comments over the course of the permitting process for the project. Our comments are tailored to the county 1041 regulations; if provided information does not address the 1041 criteria, staff cannot determine project impacts.

S-8, 9, and 58. Staff understands the applicant's response on why wetland impacts cannot be mitigated in the South Boulder Creek drainage—there is not a USACE-accepted wetland bank in the area. Staff remains concerned that impacts to the wetlands in the project area will have impacts to special species, especially plants, and that these impacts will be very challenging to mitigate fully in order to meet 1041 standards.

S-10, S-14. Until the applicant is able to provide the information on the presence of species of concern, county staff can't provide the analysis necessary for the 1041 review of project impacts. Boulder County's Comprehensive Plan included a desktop analysis, therefore Denver Water's analysis, due to be available on March 31, 2021, is not likely to confirm

presence or absence of these species. A field survey will still be required to determine project impacts on species of concern.

S-13. Updates should be completed regarding the Aquatic Nuisance Species section:

- A. Section 2.5.1 lists these species as “top AIS concerns” by CPW: New Zealand Mudsnail, Rusty Crayfish, **Waterflea**, Zebra and Quagga Mussels.
 - a. Unclear what CPW guidance was cited. Provide citation.
- B. Appendix 5.1.1.1.3 “List of Aquatic Invasive Species” are taken from “USDA 2017”.
 - a. A note about “Colorado species of concern” is provided, however, **spiny water flea** was not included.
- C. A new reference from CPW should be included, and “Priority” animal and plant species in this document should be reviewed for inclusion in this management plan.
 - a. 2020 State of Colorado Aquatic Nuisance Species Management Plan, <https://cpw.state.co.us/Documents/ANS/CO-ANS-Management-Plan.pdf>
 - b. Significant changes and additions were made to the Colorado list of priority aquatic nuisance animal and plant species of concern.
 - c. There are two species of water fleas that should be called out.
 - d. The primary animal species remain nearly the same, but there are many secondary species we request you consider.
 - e. There are many priority aquatic plant species, but none were called out as “top” aquatic invasive species for introduction potential.
 - f. Applicant should refer to Tables on pages 29-32.
- D. 5.1.1.1.4 ANS Inspection Checklists – appears dated, from CDOW 2009.
 - a. There might be a new version; we request you investigate and use if available:
Source: CDOW. 2009.
<https://cpw.state.co.us/Documents/ANS/COANSInspectionHandbook.pdf>

S-18, S-19. Staff members’ experience with the Federally Listed Threatened Species Preble’s meadow jumping mouse (PMJM), captured on adjacent BCPOS properties, causes us to continue to recommend that the applicant survey for the species in order to comply with the 1041 regulations that require this information. Staff’s assessment is that suitable habitat is present in the project area. In addition, in the 2006 USFWS letter they state, “Should additional information regarding listed or proposed species become available, this determination may be reconsidered under the ESA.” Recent Boulder County captures of Preble’s is additional information and warrants further investigation.

S-23. Staff remains concerned that some of the resource studies and surveys are now old enough that the project’s potential impacts (to be reviewed through the 1041 process) are not as accurate as more recent surveys.

S-25, S-43, S-61. Staff understands that CPW has commented on the 1041 application and confirms that the Fish and Wildlife Mitigation Plan for the project addresses their concerns, including those pertaining to elk and Environmental Conservation Areas. BCPOS remains concerned about impacts to elk in the area and is concerned about increased conflicts with elk. CPW is embarking on a collaring study (started in 2019/20) to get current information on this herd. High Biodiversity Areas and the ECA are not their purview. Staff still concludes that these resources would be significantly impacted by the proposal.

S-27. This response was based on staff's request for more information and exhibits on visual impacts to the area by the proposal. The applicant indicates that the existing material satisfied the U.S. Army Corps of Engineers (USACE), USFS, and Federal Energy Regulatory Commission (FERC). Per the FERC order, Denver Water is required to prepare an addendum to the current Visual Resource Protection Plan which will be focused on USFS impacts and mitigation thereof. Staff believes more information is necessary to address 1041 criteria pertaining to visual impacts.

S-28. This response is related to staff's request to update the Recreation Management Plan. The applicant indicates this plan will be updated by April 15, 2021. Staff will review it once it is available.

S-32. Staff has reviewed the Tree Removal Plan and has these comments:

A. In the Debris Processing and Removal Section on Page 17 the Local Log Yard (referring to our Community Forestry Sort Yard—CFSY) is described (see text below). This statement is not representative of what the yards can handle. The CFSY is not available for this project, it is intended for private, small forestry projects.

“Local Log Yard

Nederland Community Forestry Sort Yard (CFSY), operated by Boulder County, provides another utilization and disposal option for a portion of the woody material. Operationally, the Nederland CFSY could receive both logs and chips. Its tipping fee is approximately \$4.00 per cubic yard. The tree removal would produce approximately 24,000 cubic yards. The Nederland CFSY provides the closest offsite disposal location. Disposing saw logs at the sort yard would provide opportunities for local firewood cutters and reduce the trip distance for trucks.”

The CFSY program is not designed to handle and work with projects of this scale. 24,000 cubic yards can be as much as 5000 tons, and our two yards combined typically process no more than 1600 tons a year. The CFSY is actually a free program that accepts woody biomass from forest health and fire mitigation projects on private lands (and occasional small-scale public projects). The material is sorted to its highest value for utilization purposes. A majority of the material is run through a grinder and sent to facilities for composting purposes. The \$4.00 per cubic yard value is an estimate of the costs the County has to pay for tipping fees to these compost facilities, not a charge, and does not include our cost to grind and transport this material. The selected tree removal contractor should work directly with outlets, whether that be composting facilities or firewood contractors/cutters.

B. Staff recommends the applicant complete as much product utilization as possible, instead of using Air Curtain Destructors.

S-39. If the project is approved, staff will work with the applicant to coordinate the review and monitoring of the implementation of mitigation measures along with the other permitting agencies



File Code: 2770
Date: April 26, 2021

Dave Bennett
Director of Planning
1600 W. 12th Avenue
Denver, CO 80204

Dear Mr. Bennett:

Thank you for the opportunity to review and comment on the Draft Invasive Species Management Plan and the Draft 2021 Tree Removal Plan associated with the Gross Reservoir Enlargement Project.

Draft 2021 Tree Removal Plan:

My comments to the 2021 Tree Removal Plan can be found in the attached “Agency Comment Matrix”, I have a general comment to add though. Throughout the Draft 2021 Tree Removal Plan, other plans which have not been developed or reviewed by the Forest Service are referenced. Before I approve the Final Tree Removal Plan, I would like an opportunity to review all plans referenced in the 2021 Tree Removal Plan.

Draft Invasive Species Management Plan:

My comments to the Invasive Species Management Plan can be found in the attached “Plan Comments” and below:

Noxious Weed Species Comments:

- Comments for this portion of the Invasive Species Management Plan can be found in the attached “Plan Comments.”

Aquatic Invasive Species (AIS) Comments:

- Actual monitoring included is limited to zebra/quagga mussels and larvae in the reservoir only.
- The monitoring plan does not include tributary streams, even though the condition calls for it.
- The condition does not limit the AIS species monitored. The monitoring plan does not include surveying for other AIS, such as New Zealand mud snails and didymosphenia geminata, which are AIS species already present in lower reaches of Boulder Creeks near the City of Boulder. These two species should be surveyed for in South Boulder Creek from Moffat Tunnel portal to the reservoir.
- Given the hydrology changes to flows in lower South Boulder Creek downstream of Gross Reservoir, the AIS plan may need to include AIS monitoring in the tailwater



reaches of South Boulder Creek. New Zealand mud snails and didymosphenia may increase in abundance due to local inadvertent introductions or changes in flow regulation from Gross Reservoir outflows.

Signage Comments:

- Locations as shown may be sufficient and provide a great starting place; but, sign locations in parking areas may need to be adjusted to ensure that visitors see them and have an opportunity to comply.
- Anywhere parking opportunities are being managed or developed may need signage.

Unless it was missed in the plan, it is 1) unclear if there are limitations to where any type of boat/watercraft can be launched or if they can be launched anywhere.

If there are no limitations on where boats can be launched, is there a plan to add signage at other locations as necessary? Or can these limitations be put in place to manage where people are accessing water? (these may be identified in the Recreation Management Plan or Adaptive recreation management Plan and/or trails inventory).

and 2) is the only concern boats/watercraft or is there concerns over wading boots/etc?

If we are only concerned about boats/watercraft, then I think this is covered. Perhaps the adaptive management would drive the need for those with wading boots. In this event, there could be a need to update the locations and create additional signage.

Lastly – I am unsure of the need for the “Jumbo Mountain Site.” This site, from a recreational management perspective, is on a glide path to removing infrastructure and adding a sign may not fit the development scale. Also, there is very limited opportunity for access on National Forests System lands (maybe a few hundred feet/yards at best). This also begs the question about watercraft or wading.

Again, thank you for the opportunity to review and comment on the Draft 2021 Tree Removal Plan and the Draft Invasive Species Management Plan. If you have any questions, please contact Mike Johnson at 970-531-9609 or at Michael.Johnson6@usda.gov.

Sincerely,

**MONTE
WILLIAMS** Digitally signed by
MONTE WILLIAMS
Date: 2021.04.27
16:23:53 -06'00'

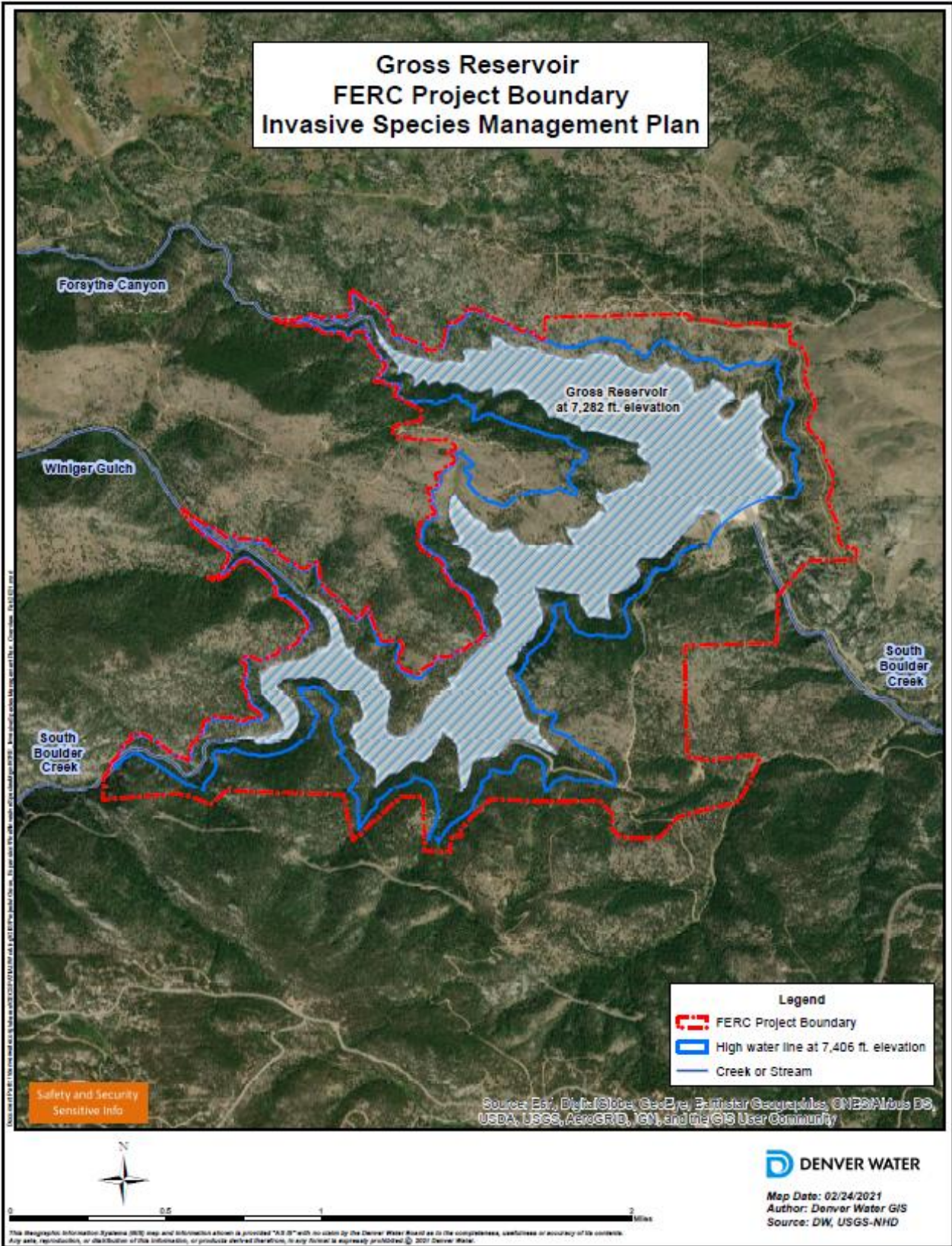
MONTE WILLIAMS
Forest Supervisor

Enclosures

cc: Melissa Brasfield - grossreservoir@denverwater.org

Appendix C:
Map of Plan Boundaries

This page intentionally left blank.

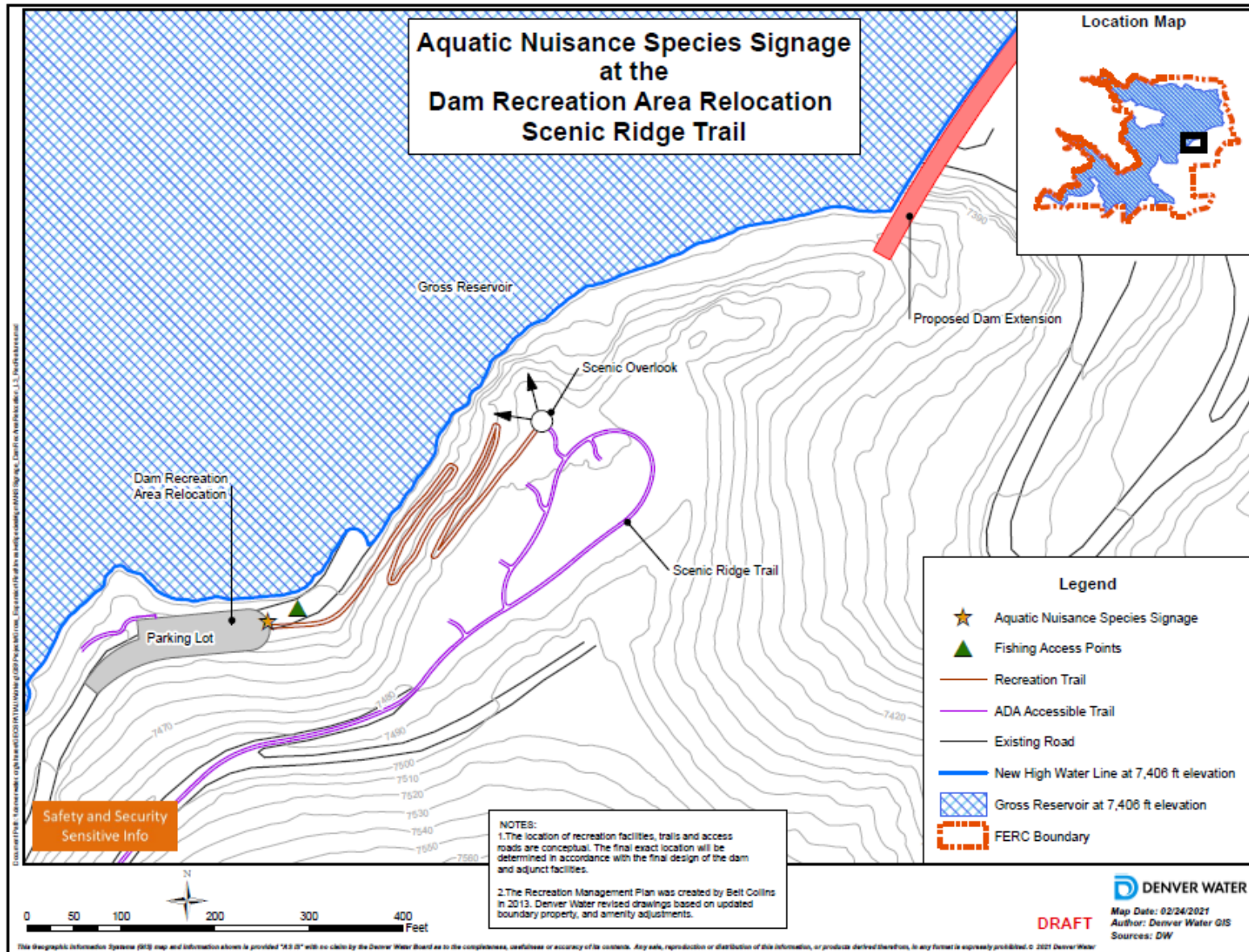


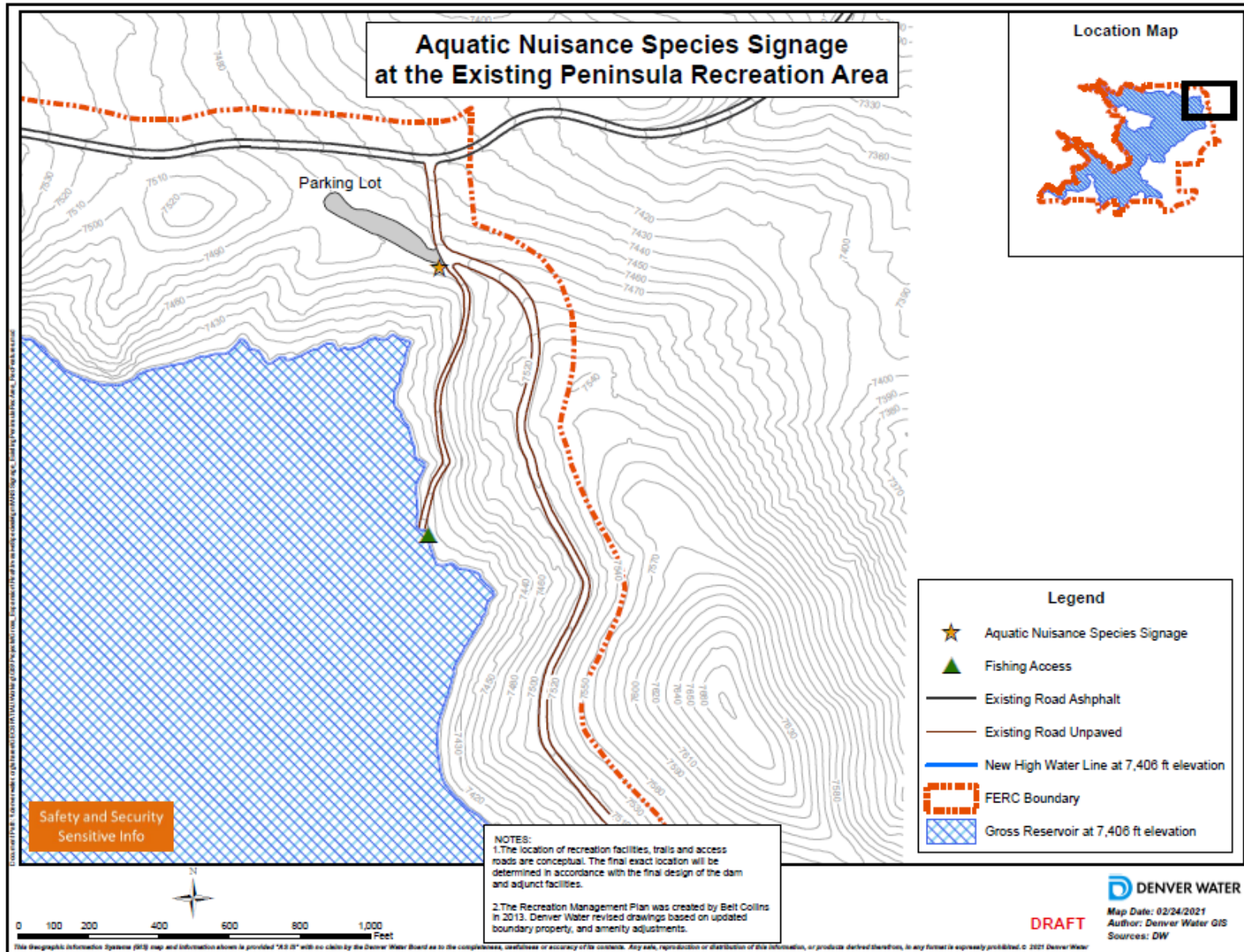
This page intentionally left blank.

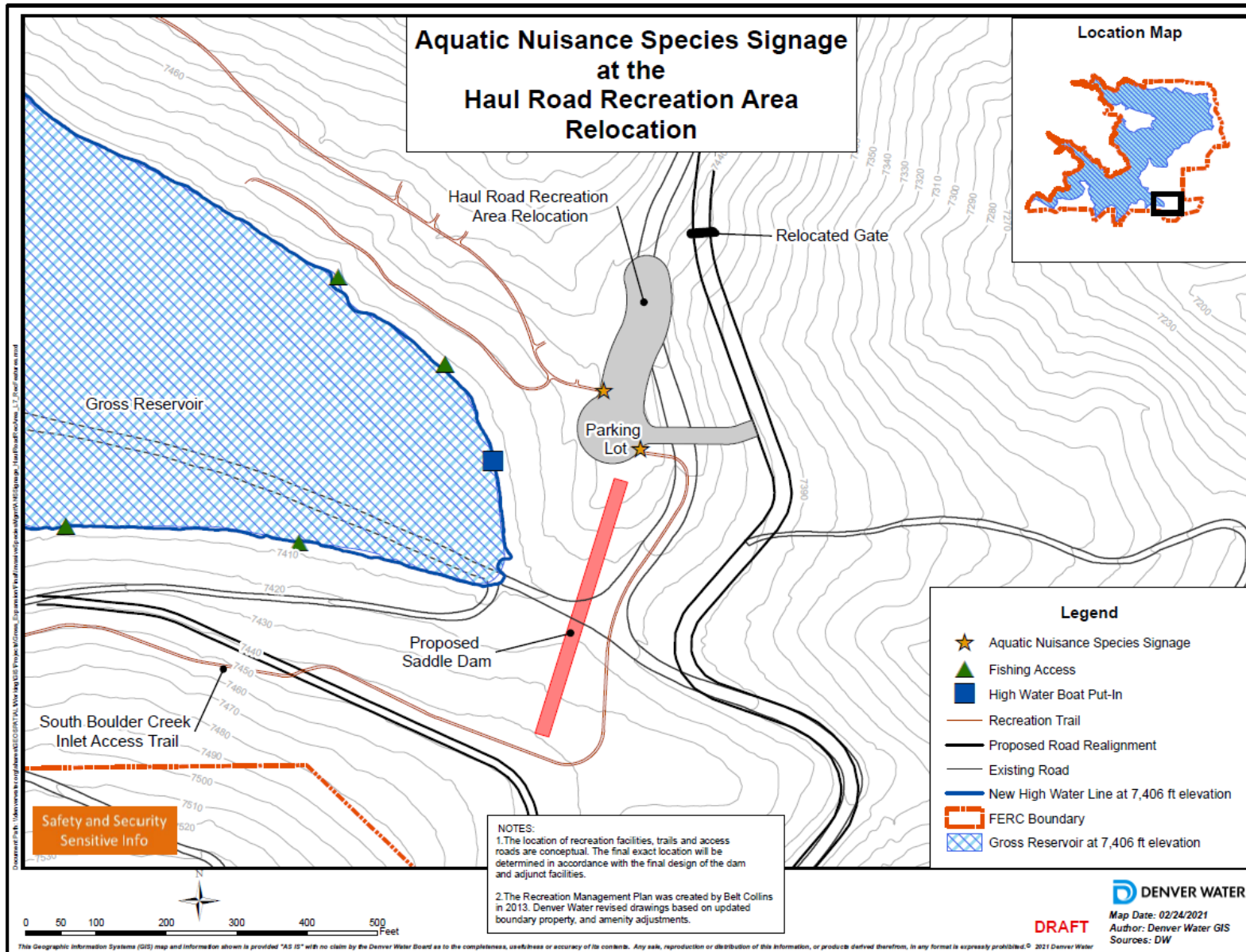
Appendix D:

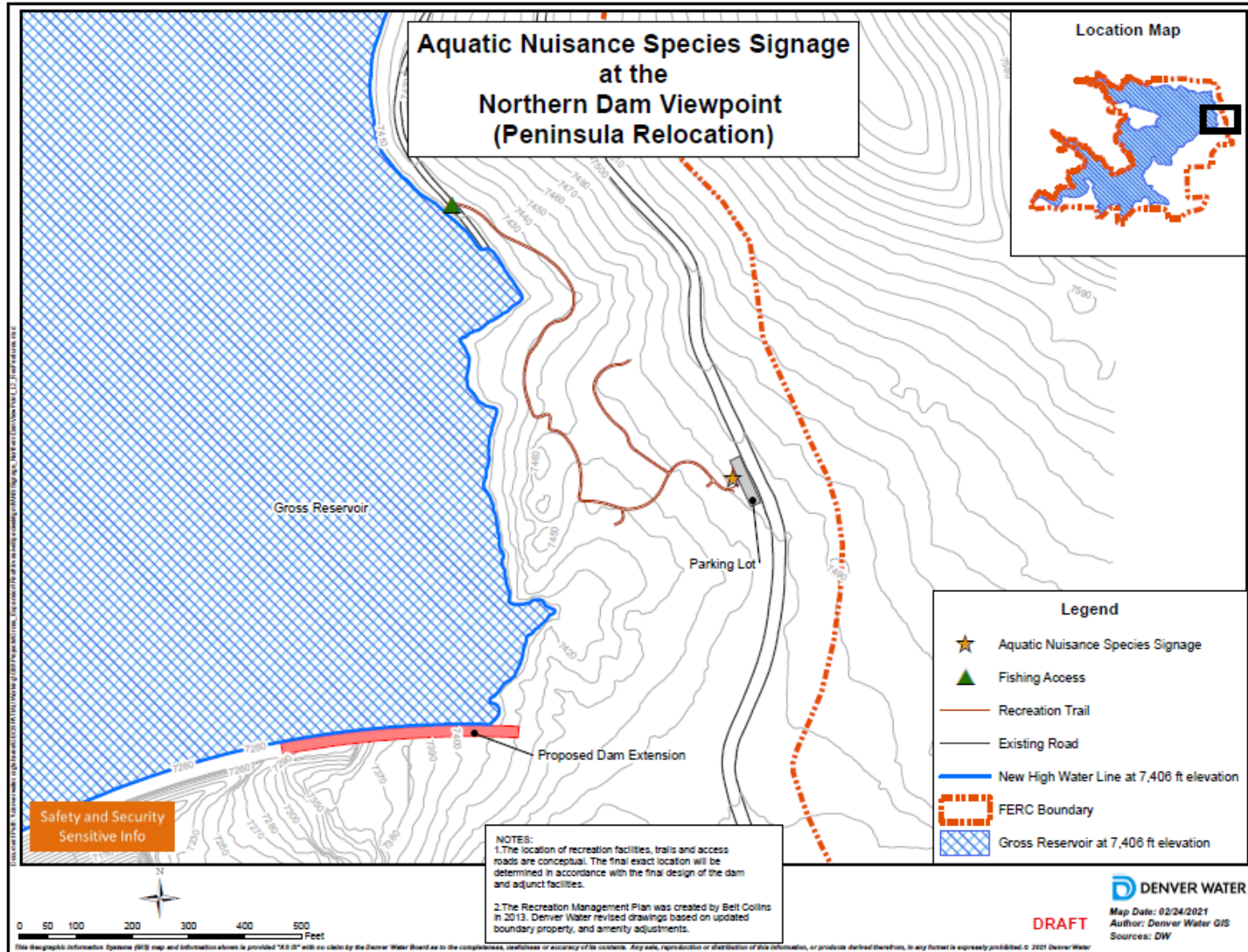
Sign Location and Design

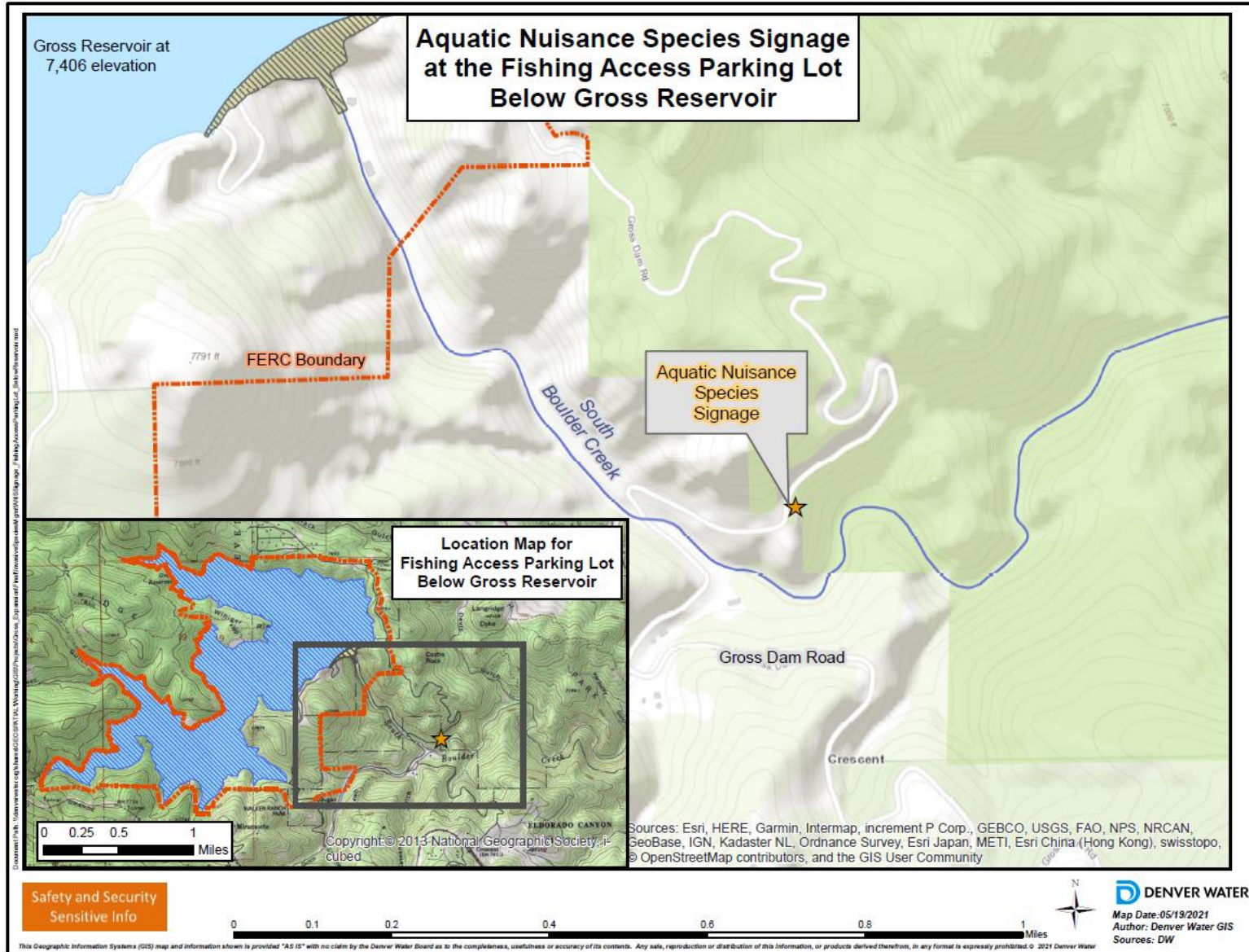
This page intentionally left blank.











This page intentionally left blank.

Appendix E:

List of Aquatic Invasive Species

This page intentionally left blank.

PRIMARY AQUATIC NUISANCE ANIMAL SPECIES OF CONCERN			
Common Name	Scientific Name	Status in Colorado	Management Plan
Crayfish, Rusty	<i>Faxonius rusticus</i> (reclassified in 2017) formally known as <i>Orconectes rusticus</i>	Present	State of Colorado Rusty Crayfish Management Plan (Final 2010, Revised 2018)
Quagga Mussel	<i>Dreissena bugensis</i>	Suspect	State of Colorado Zebra and Quagga Management Mussel Plan (Final 2009, Revised 2018)
Zebra Mussel	<i>Dreissena polymorpha</i>	No verified presence	State of Colorado Zebra and Quagga Management Mussel Plan (Final 2009, Revised 2018)
New Zealand Mudsnail	<i>Potamopyrgus antipodarum</i>	Present	State of Colorado New Zealand Mudsnail Management Plan (Final 2005, Revised 2018)
Water Flea, fishhook	<i>Cercopagis pengoi</i>	No verified presence	None
Water Flea, spiny	<i>Bythotrephes longimanus</i> (also known as <i>Bythotrephes</i>)	No verified presence	None

SECONDARY AQUATIC NUISANCE ANIMAL SPECIES OF CONCERN			
Common Name	Scientific Name	Status in Colorado	Management Plan
Alewife	<i>Alosa pseudoharengus</i>	Present	None
African Perch, Nile Perch	<i>Lates niloticu</i>	No verified presence	None
Amphipod, Ponto-Caspian echinogammarid amphipod	<i>Echinogammarus ischnus</i>	No verified presence	None
Apple Snail	<i>Pomacea</i>	No verified presence	None
Asian Carp: Bighead Carp Black Carp Silver Carp	<i>Aristichthys/Hypophthalmichthys nobilis</i> <i>Mylopharyngodon piceus</i> <i>Hypophthalmichthys molitrix</i>	No verified presence	National Management Plan
Bitterling	<i>Rhodeus sericeus</i>	No verified presence	None
Bowfin	<i>Amia calva</i>	No verified presence	None
Burbot	<i>Lota lota</i>	No verified presence	None
Chain Pickerel	<i>Esox niger</i>	No verified presence	None
Eurasian Ruffe	<i>Gymnocephalus cernuus</i>	No verified presence	National Management Plan
European Valve Snail	<i>Valvata piscinalis</i>	No verified presence	None
Gars	<i>Lepisosteidae</i>	No verified presence	None
Giant Rams Horn Snail	<i>Marisa cornuarietis</i>	No verified presence	None

SECONDARY AQUATIC NUISANCE ANIMAL SPECIES OF CONCERN (cont.)			
Common Name	Scientific Name	Status in Colorado	Management Plan
Gobies	Gobiidae	No verified presence	National Management Plan
Ide	<i>Leuciscus idus</i>	No verified presence	None
Indian Carp	<i>Cirrhina mrigala, Catla catla and Labeo rohita</i>	No verified presence	None
Killer Shrimp	<i>Dikerogammarus</i>	No verified presence	None
Loaches	<i>Misgurnus</i>	No verified presence	None
Marine Toad, Cane Toad, Giant Toad, Giant, South American CaneToad, Dominican toad	<i>Bufo marinus Rhinella marina</i>	No verified presence	None
Northern Snakehead	<i>Channa argus</i>	No verified presence	National Management Plan
Mysterysnails Japanese, Chinese, Banded, Olive	<i>Cipangopaludina, Viviparus</i>	No verified presence	None
Rudd	<i>Scardinius erythrophthalmus</i>	Present	None
Walking Catfish	<i>Clarias batrachus</i>	No verified presence	None
Zander	<i>Sander lucioperca</i>	No verified presence	None

PRIMARY AQUATIC NUISANCE PLANT SPECIES OF CONCERN			
Common Name	Scientific Name	Status in Colorado	Management Plan
African waterweed (elodea)	<i>Lagarosiphon major</i>	No verified presence	None
Brazilian elodea, Egeria, leafy elodea, dense waterweed, anacharis, Brazilian waterweed	<i>Egeria densa</i>	Present	Site Management Plan
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Present	CDA Weed Rule Management Plan
Giant salvinia	<i>Salvinia molesta</i>	No verified presence	National Plan and CDA Weed Rule Management Plan
Water Hyacinth	<i>Eichornia crassipes</i>	Present	None
Hydrilla	<i>Hydrilla verticillata</i>	No verified presence	CDA Weed Rule Management Plan
Parrotfeather	<i>Myriophyllum aquaticum</i>	No verified presence	None
Yellow floating heart	<i>Nymphoides peltata</i>	No verified presence	None

SECONDARY AQUATIC NUISANCE PLANT SPECIES OF CONCERN			
Common Name	Scientific Name	Status in Colorado	Management Plan
Ambulia, Asian marshweed	<i>Limnophila sessiliflora</i>	No verified presence	None
Swollen Bladderwort	<i>Utricularia inflata</i>	No verified presence	None
Bur-reed, Exotic	<i>Sparganium erectum</i>	No verified presence	None
Curly leaf pondweed	<i>Potamogeton crispus</i>	Present	None
Didymo "rock snot"	<i>Didymosphenia geminata</i>	Present	None
Duck Lettuce	<i>Ottelia alismoides</i>	No verified presence	None
European water chestnut	<i>Trapa natans</i>	No verified presence	None
Fanwort	<i>Cabomba caroliniana</i>	Present	None
Flowering Rush	<i>Butomus umbellatus</i>	Present	None
Golden algae	<i>Prymnesium parvum</i>	Present	None
Heartshaped pickerel	<i>Monochoria vaginalis</i>	No verified presence	None
Miramar weed	<i>Hygrophila polysperma</i>	No verified presence	None
Mosquito fern	<i>Azolla pinnata</i>	No verified presence	None
Purple loosestrife	<i>Lythrum salicaria</i>	Present	List A Weed
Starry stonewort	<i>Nitellopsis obtusa</i>	No verified presence	None
Water creeping primrose, Floating Primrose Willow	<i>Ludwigia peploides</i>	Present	None
Water Lettuce	<i>Pistia Stratiotes</i>	Present—Eradicated	None
Yellow flag Iris	<i>Iris pseudacorus</i>	Present	None

Source: CPW^a (2020)

This page intentionally left blank.

Appendix F:

Education Program Effectiveness Survey

This page intentionally left blank.



Aquatic Nuisance Species Survey

Thank you for using the recreational facilities at the Gross Reservoir today! To help us control Aquatic Nuisance Species (ANS) and to improve our Education Program, please complete the following few questions.

Did you fish or boat?

Fish Boat Both

How many people were in your party?

1 2 3 4+

Did you see any signage/leaflets about Aquatic Nuisance Species (ANS), such as Quagga and Zebra Mussels?

Yes No

If yes, how useful would you rate the signage/leaflets?

Very Useful Somewhat Useful Not Useful

Did you view ANS information on Denver Water's Gross Reservoir Recreation website before your visit?

Yes No

If yes, how useful would you rate the information provided about ANS on the website?

Very Useful Somewhat Useful Not Useful

Did you conduct an inspection for Aquatic Nuisance Species (ANS), before entering equipment into the water here today?

Yes No Partially

Did you/will you "Clean, Drain, Dry" all of your equipment after using it here today?

Yes No Partially

Comments/suggestions about the Education Program and Public Information available:

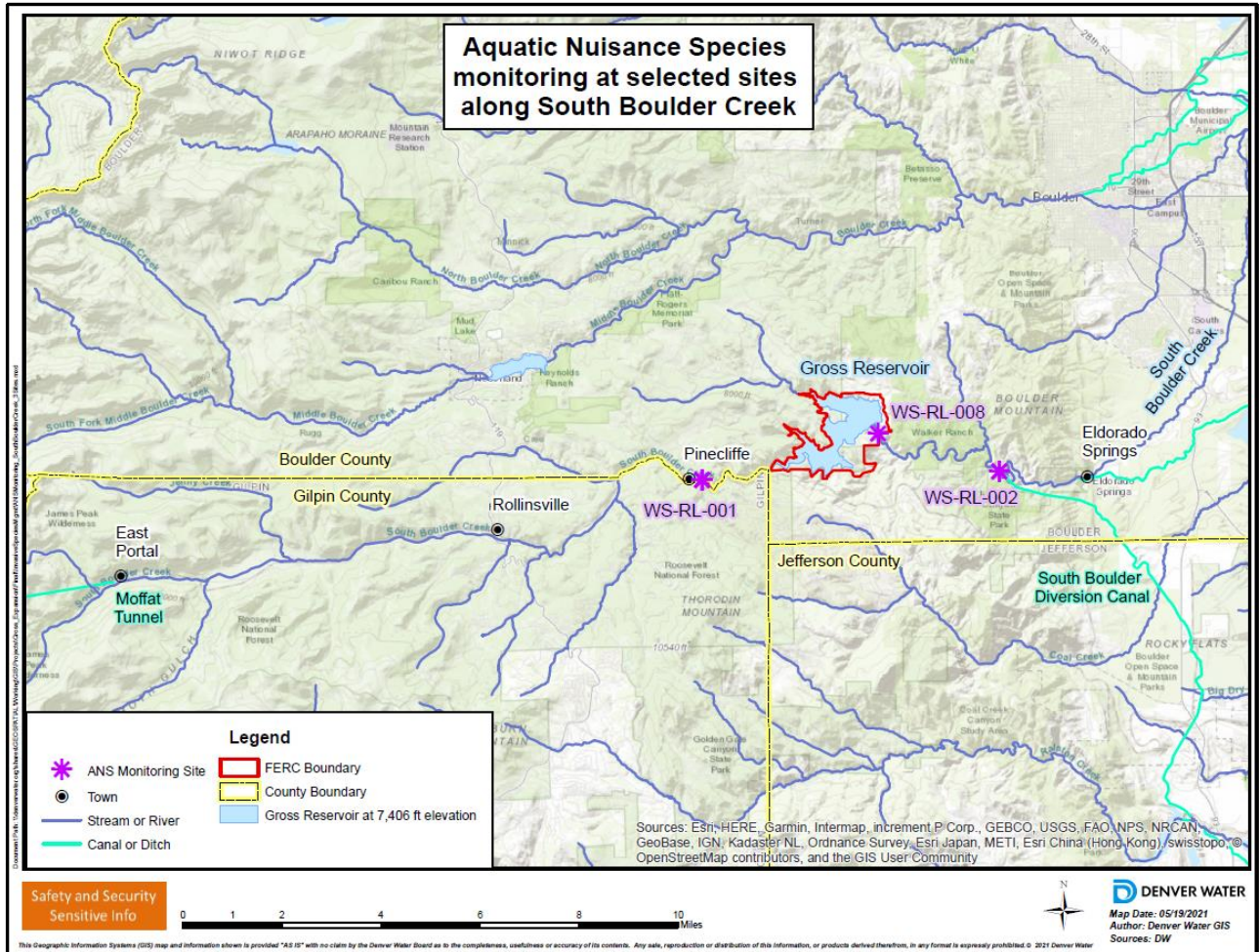
Thank you for participating in our survey. **Please leave your completed survey in the response box.**

This page intentionally left blank.

Appendix G:

ANS Monitoring Locations

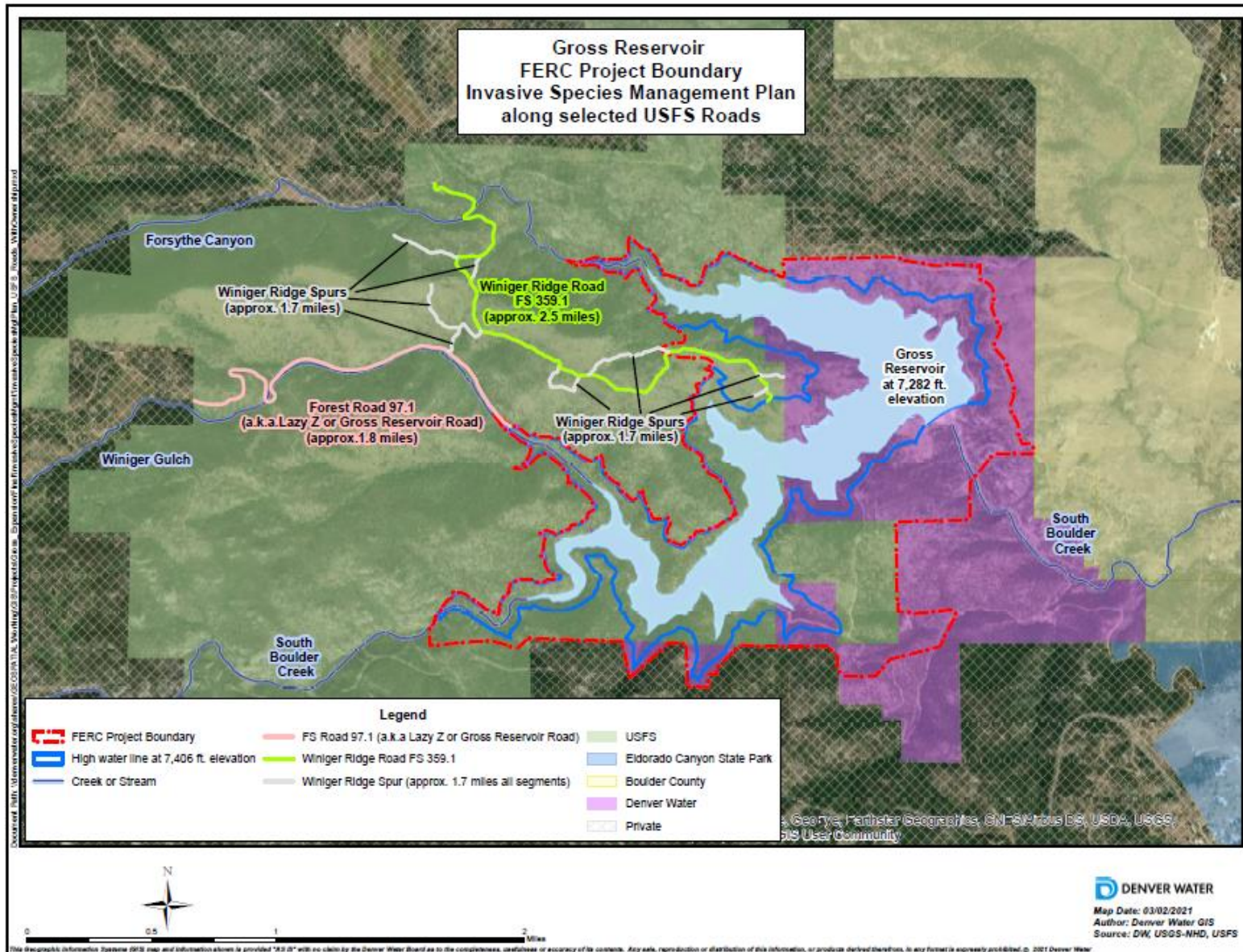
This page intentionally left blank.



This page intentionally left blank.

Appendix H: Road Maintenance Location

This page intentionally left blank.



This page intentionally left blank.

Appendix I:

Colorado Noxious Weeds, effective October, 2020

This page intentionally left blank.

Colorado Noxious Weeds (including Watch List), effective October, 2020

List A Species (25)

Common	Scientific
African rue	<i>(Peganum harmala)</i>
Bohemian knotweed	<i>(Fallopia x bohemicum)</i>
Camelthorn	<i>(Alhagi maurorum)</i>
Common crupina	<i>(Crupina vulgaris)</i>
Cypress spurge	<i>(Euphorbia cyparissias)</i>
Dyer's woad	<i>(Isatis tinctoria)</i>
Elongated mustard	<i>(Brassica elongata)</i>
Flowering rush	<i>(Butomus umbellatus)</i>
Giant knotweed	<i>(Fallopia sachalinensis)*</i>
Giant reed	<i>(Arundo donax)</i>
Giant salvinia	<i>(Salvinia molesta)</i>
Hairy willow-herb	<i>(Epilobium hirsutum)</i>
Hydrilla	<i>(Hydrilla verticillata)</i>
Japanese knotweed	<i>(Fallopia japonica)</i>
Meadow knapweed	<i>(Centaurea x moncktonii)</i>
Mediterranean sage	<i>(Salvia aethiopis)</i>
Medusahead	<i>(Taeniatherum caput-medusae)</i>
Myrtle spurge	<i>(Euphorbia myrsinites)</i>
Orange hawkweed	<i>(Hieracium aurantiacum)</i>
Parrotfeather	<i>(Myriophyllum aquaticum)</i>
Purple loosestrife	<i>(Lythrum salicaria)</i>
Rush skeletonweed	<i>(Chondrilla juncea)</i>
Squarrose knapweed	<i>(Centaurea virgata)</i>
Tansy ragwort	<i>(Senecio jacobaea)</i>
Yellow starthistle	<i>(Centaurea solstitialis)</i>

*Scientific name is correct here, and the Administrative Rule will be updated during the next cycle (2022).

List B Species (38)

Common	Scientific
Absinth wormwood	<i>(Artemisia absinthium)</i>
Black henbane	<i>(Hyoscyamus niger)</i>
Bouncingbet	<i>(Saponaria officinalis)</i>
Bull thistle	<i>(Cirsium vulgare)</i>
Canada thistle	<i>(Cirsium arvense)</i>
Chinese clematis	<i>(Clematis orientalis)</i>
Common tansy	<i>(Tanacetum vulgare)</i>
Common teasel	<i>(Dipsacus fullonum)</i>
Cutleaf teasel	<i>(Dipsacus laciniatus)</i>
Dalmatian toadflax, broad-leaved	<i>(Linaria dalmatica)</i>
Dalmatian toadflax, narrow-leaved	<i>(Linaria genistifolia)</i>
Dame's rocket	<i>(Hesperis matronalis)</i>
Diffuse knapweed	<i>(Centaurea diffusa)</i>
Eurasian watermilfoil	<i>(Myriophyllum spicatum)</i>
Hoary cress	<i>(Lepidium draba)</i>

Colorado Noxious Weeds (including Watch List), effective October, 2020

List B Species Continued (38)

Common	Scientific
Houndstongue	<i>(Cynoglossum officinale)</i>
Jointed goatgrass	<i>(Aegilops cylindrica)</i>
Leafy spurge	<i>(Euphorbia esula)</i>
Mayweed chamomile	<i>(Anthemis cotula)</i>
Moth mullein	<i>(Verbascum blattaria)</i>
Musk thistle	<i>(Carduus nutans)</i>
Oxeye daisy	<i>(Leucanthemum vulgare)</i>
Perennial pepperweed	<i>(Lepidium latifolium)</i>
Plumeless thistle	<i>(Carduus acanthoides)</i>
Russian knapweed	<i>(Rhaponticum repens)</i>
Russian-olive	<i>(Elaeagnus angustifolia)</i>
Salt cedar	<i>(Tamarix. ramosissima)</i>
Salt cedar	<i>(T. chinensis)</i>
Scentless chamomile	<i>(Tripleurospermum inodorum)</i>
Scotch thistle	<i>(Onopordum acanthium)</i>
Scotch thistle	<i>(O. tauricum)</i>
Spotted knapweed	<i>(Centaurea stoebe ssp. micranthos)</i>
Spotted x diffuse knapweed hybrid	<i>(Centaurea x psammagena)</i>
Sulfur cinquefoil	<i>(Potentilla recta)</i>
Wild caraway	<i>(Carum carvi)</i>
Yellow nutsedge	<i>(Cyperus esculentus)</i>
Yellow toadflax	<i>(Linaria vulgaris)</i>
Yellow x Dalmatian toadflax hybrid	<i>(Linaria vulgaris x L. dalmatica)</i>

List C Species (16)

Common	Scientific
Bulbous bluegrass	<i>(Poa bulbosa)</i>
Chicory	<i>(Cicharium intybus)</i>
Common burdock	<i>(Arctium minus)</i>
Common mullein	<i>(Verbascum thapsus)</i>
Common St. Johnswort	<i>(Hypericum perforatum)</i>
Downy brome, cheatgrass	<i>(Bromus tectorum)</i>
Field bindweed	<i>(Convolvulus arvensis)</i>
Halogeton	<i>(Halogeton glomeratus)</i>
Johnsongrass	<i>(Sorghum halepense)</i>
Perennial sowthistle	<i>(Sonchus arvensis)</i>
Poison hemlock	<i>(Conium maculatum)</i>
Puncturevine	<i>(Tribulus terrestris)</i>
Quackgrass	<i>(Elymus repens)</i>
Redstem filaree	<i>(Erodium cicutarium)</i>
Velvetleaf	<i>(Abutilon theophrasti)</i>
Wild proso millet	<i>(Panicum miliaceum)</i>

Source: CDA (2020)