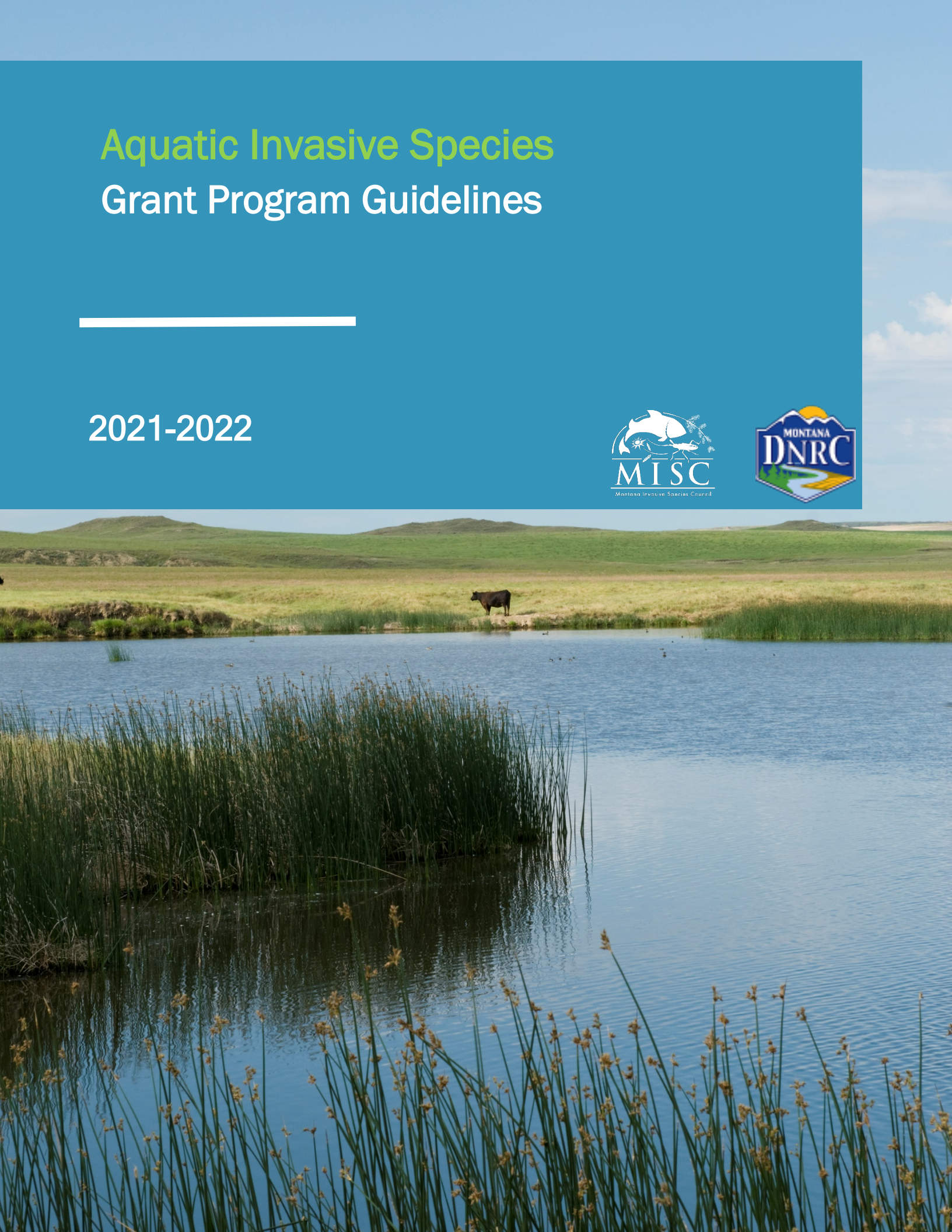
Aquatic Invasive Species
Grant Program Guidelines

2021-2022



Overview

The Montana Department of Natural Resources and Conservation (DNRC) administers the Aquatic Invasive Species Grant Program in coordination with the Montana Invasive Species Council (MISC). DNRC provides fiscal management of the grant program and approves funding decisions. MISC manages the application process, reviews, and provides recommendations to the DNRC Director. Funding in the amount of $278,000/year for fiscal year FY 22 and FY23 was appropriated by the legislature for this program. DNRC may incur up to 10% of the yearly appropriation for administration of the program.

AQUATIC INVASIVE SPECIES GRANT ACCOUNT

80-7-1017. Invasive species grant account. (1) There is an invasive species grant account in the state special revenue fund established in 17-2-102. Subject to appropriation by the legislature, money deposited in the account must be used pursuant to 80-7-1018 and this section.

(2) Deposits to the account may include but are not limited to grants, gifts, transfers, bequests, donations, appropriations from any source, and deposits made pursuant to 80-7-1016.

(3) Interest and income earned on the account and any unspent or unencumbered money in the account at the end of a fiscal year must remain in the account.

(4) Money deposited in the account may be used for costs incurred by the department of natural resources and conservation to administer the provisions of 80-7-1016 through 80-7-1018. Except for startup costs incurred in the first year of the program, the administrative costs in any fiscal year, including but not limited to personal services and operations, may not exceed 10% of the total amount of grants and contracts awarded pursuant to 80-7-1018 in the previous fiscal year.

AQUATIC INVASIVE SPECIES GRANT PROGRAM–RULEMAKING

80-7-1018. Invasive species grant program -- criteria -- rulemaking. (1) Money deposited in the invasive species grant account established in 80-7-1017 may be expended by the department of natural resources and conservation through grants to or contracts with communities or local, state, tribal, or other entities for invasive species management.

(2) For the purposes of this section, the term "invasive species management" includes public education and planning, development, implementation, or continuation of a program or project to prevent, research, detect, control, or, where possible, eradicate invasive species.

(3) A grant or contract may be awarded under this section for demonstration of and research and public education on new and innovative invasive species management.

(4) In making grant and contract awards under this section, the department of natural resources and conservation shall give preference to local governments, collaborative stakeholders, and community groups that it determines can most effectively implement programs on the ground.

(5) If the governor appoints an advisory council on invasive species, the department of natural resources and conservation shall consider recommendations by the advisory council for awards made under this section.

(6) The department of natural resources and conservation is not eligible to receive grants and contracts under this section.

(7) The department of natural resources and conservation may accept federal funds for use pursuant to this section.

(8) Any funds awarded under this section, regardless of when they were awarded, that are not fully expended upon termination of a contract or an extension of a contract, not to exceed 1 year, must revert to the department of natural resources and conservation and be deposited in the invasive species grant account established in 80-7-1017. The department of natural resources and conservation shall use any reverted funds to make future awards pursuant to this section.

(9) The department of natural resources and conservation may adopt rules to administer the provisions of 80-7-1016 through 80-7-1018.

Application, Submittal, and Review Process

AIS GRANT PRIORITIES AND PROJECT ELIGIBILITY

AIS grants are intended to increase local capacity and involvement to address AIS issues. Projects that address the following AIS management components are eligible and include:

- Prevention
- Early detection
- Education and outreach
- Research
- Treatment

Current state-wide priorities that have been identified and supported by former grantees and stakeholders include grants for projects related to:

- Early detection survey and monitoring to expand local capacity and involvement in multi- AIS taxa early detection efforts.
- AIS education and outreach that expand AIS awareness at the local and statewide level.
- AIS research including eDNA research related to dreissenid mussel early detection addressing eDNA Science Advisory Panel recommendations.

Locally-led proposals that address state-wide priorities will receive ranking preference, as well as proposals addressing AIS species on the Montana Noxious Weed List and AIS under the authority of Montana Fish, Wildlife & Parks (FWP) (see Appendix A). However, all eligible grant requests will be evaluated and considered.

Projects must align with state AIS priorities, show local support, and be coordinated with related AIS efforts in the area including aquatic invasive species management plans. Priority will be given to local

partnerships that demonstrate the administrative, financial, and management capacity to implement the project. The project must commit to using statewide AIS protocols and reporting.

The state AIS program includes the CleanDrainDry campaign and associated materials and products. Education and outreach projects must be coordinated with the state campaign for consistency, accuracy, and brand recognition to ensure maximum effectiveness. FWP will provide outreach materials for distribution and customization. For more information about AIS education and outreach, contact Liz Lodman at llodman@mt.gov, 406-444-9940.

While match funding is not required, it will be considered in the grant review and ranking process.

APPLICANT ELIGIBILITY

AIS grants are available to Montana communities or local, state, tribal, or other entities within the state and to Montana-based non-governmental organizations.

GRANT LIMITS AND TYPES

- $50,000 per project. Projects can be up to 18 months with a one-year extension if needed. Grantee must request any extension or scope modification in writing to DNRC for approval.
- **On-the-ground projects**: Projects or programs that address statewide AIS priorities and other eligible projects. Typically, these are monitoring and control projects.
- **Education and outreach projects**: Expand capacity and distribution of AIS outreach and education to improve AIS awareness and reinforce the CleanDrainDry message.
- **AIS research projects**: Applied research investigating techniques and strategies to improve AIS prevention, early detection, education or control. Projects must be applied research that address existing AIS priorities, gaps, questions or needs.

CONSIDERATIONS

- Applicants may submit applications for more than one project during a cycle.
- Multi-year projects are eligible; however, applicants would need to reapply for follow-on activities occurring beyond the original grant term, and funding is not guaranteed.
- Grants are not intended to fully fund and maintain long-term projects, positions, or programs.
- Coordination is required with FWP AIS program to ensure continuity and consistency in Montana's AIS program. Grantees must follow FWP protocols and materials produced through this grant program must be reviewed prior to production to ensure consistency with state-wide program.
- Applicants are encouraged to coordinate with FWP prior to application submission.
- Matching funds are not required but will be considered in the review process. Match can include hard dollars or in-kind contributions. Match will be accounted for in grant reporting.
- Preference will be given to proposals that address the listed AIS priorities included in these guidelines, ranking criteria, and high-priority AIS species.

- Cost-share reimbursement to host Big Sky Watershed Corp. members performing AIS project activities is eligible if payment is requested in the grant application and payment is made within the term of the grant agreement.
- On request, proposals can be reviewed for feedback prior to submission.

INELIGIBLE COSTS

- Activities outside of the scope of work
- Costs incurred outside of the contract term
- Routine maintenance and operation
- eDNA sampling/processing unless related to an eDNA research project
- Salaries/wages, travel, and other expenses not directly related to the project
- Administrative costs greater than 10 percent of the total project cost
- Indirect costs (for example, facilities and administration)

PROPOSAL SUBMISSION

Applicants will be required to submit a full proposal on Submittables. Application cycles will be announced via the MISC Bulletin and on its website. Visit misc.mt.gov to subscribe to the bulletin and view cycle announcements and application information. Typically, cycles will be announced in the fall with applications due 6-8 weeks after being announced. If submitting more than one project for funding consideration, applicants are required to complete a separate application form and include all required information for each project.

Proposals will be reviewed and ranked by the AIS Grant Review Committee as described below.

AIS GRANT REVIEW COMMITTEE

Montana departments that have responsibility for AIS in the state have a Memorandum of Understanding (MOU) per MCA Title 80, Part 10. In keeping with the law and MOU, those departments will comprise the AIS Grant Review Committee, which are all voting MISC members. The Departments include: Montana Department of Fish, Wildlife & Parks, Montana Department of Transportation, Montana Department of Agriculture, and the Montana Department of Natural Resources and Conservation. The MISC hydropower representative will also be on the committee representing the industry's interests as funders of the program. The MISC Coordinator will assist the review committee and coordinate the review process and AIS grant hearings.

AIS Grant Review Committee Member Responsibilities

The AIS Grant Review Committee is an integral asset to the Department of Natural Resources and Conservation and the Montana Invasive Species Council. The review committee is responsible for reviewing and ranking AIS grant applications and providing a ranked list of projects and project summaries to the full MISC for consideration. The AIS Grant Review Committee may work with

applicants on project adjustments prior to the grant hearings to address concerns or application issues.

Secondary Reviewers

Secondary reviewers are technical experts that provide input into AIS grant applications. The AIS Grant Review Committee will consider input for the ranked list of projects.

GRANT REVIEW PROCESS OVERVIEW

- A MISC meeting will be scheduled following the grant review process to conduct AIS Grant Hearings, which include applicant presentations, project Q&A, and MISC funding deliberations and vote.
- Prior to hearings, AIS Grant Review Committee will review applications and provide a recommended ranked list of all proposed projects and a summary of each of the projects to include application strengths and weaknesses, recommendation justification, and constraints and stipulations. Project summaries will also include a list of secondary reviewers[i] if applicable.
- AIS Grant Review Committee can recommend less funding than requested, and/or recommend constraints/stipulations around project (e.g. remove task), or recommend project is ineligible/not recommended.
- During the hearings, grant applicants will have the opportunity to present their project(s).
- Following presentations and Q&A, MISC deliberates and then votes on the project list. MISC can approve the recommended list or adjust recommendations by consensus of a majority of present Council members.
- The funding recommendations voted on and adopted by MISC are provided to DNRC for final approval.
- A quorum of the full Council is not required to vote on the list of funding recommendations. Rather the list can be voted on by a consensus of Council members present at the grant hearing.

APPLICATION PRESENTATIONS

Applicants of eligible applications will have the opportunity to provide a 5-10-minute presentation describing the scope, schedule, and budget of their project during the grant cycle's AIS Grant Hearing. Applicants may attend in person or provide their presentation via teleconference. MISC members will be able to ask the applicant questions following their presentation.

APPLICATION EVALUATION, AIS GRANT HEARINGS, AND FUNDING DECISIONS

Evaluation of applications by the AIS Grant Review Committee will include a **quantitative component and a qualitative component**. Each reviewer will evaluate projects using the criteria below to score them and those scores will be averaged to generate a list of quantitative rankings. The review committee will also meet prior to the MISC grant hearing meeting to discuss the qualitative merits of

the project and determine funding recommendations. The committee may reach out to applicants during the evaluation period to ask clarifying questions or request additional information.

MISC staff will compile the ranked list and add qualitative information to the project summaries prior to the AIS Grant Hearings. Applicants will present their project(s) during the hearing followed by Q&A. After presentations are complete, the Council will discuss the projects considering both quantitative rankings and qualitative information and vote to adopt the list or adjust funding recommendations based on the presentations, questions, and deliberation. A quorum of the full Council is not required to adopt the list, but rather consensus of Council members present at the grant hearing. The final recommendations will then be submitted to DNRC for approval. DNRC may approve the list as recommended by MISC or make adjustments.

All applications will be scored using the following criteria for the **quantitative component** of the evaluation:

1. project purpose and scope and project management; and
2. **one** project type, which is indicated on the application.

SCORING SUMMARY	MAXIMUM SCORE
Project Purpose and Scope	**70**
Project Management and Likelihood of Success	**10**
Sub-total	**80**
Applications will be scored on **ONE** of the following projects types	
On-the-ground projects scoring criteria	**30**
Education & Outreach projects scoring criteria	**30**
Research projects scoring criteria	**30**
TOTAL MAXUMUM SCORE	**110**

PROJECT PURPOSE AND SCOPE	SCORING RANGE
Does the proposed project focus on priority aquatic invasive species for prevention, detection, eradication, control or management (see Appendix A)? • 10 = Proposed project focuses on multiple AIS for more than one category of prevention, detection, eradication, control, or management. • 5 = Proposed project focuses on two or fewer AIS for only one or more categories of prevention, detection, eradication, control or management. • 0 = Proposed project focuses on one AIS for only one category of prevention, detection, eradication, control or management.	**0-10**
Does the proposed project directly address statewide AIS priorities in these guidelines and/or address local, regional, tribal, or federal agency plan(s) that are cited/provided in the project application? • 10 = Proposed project addresses a statewide priority and is strongly linked to AIS plan(s). • 5 = Proposed project addresses a statewide priority. • 0 = Proposed project does not address a statewide priority nor is it linked to any plan.	**0-10**
Are the proposed project goals and outcomes clearly stated? • 10 = The proposed project has clearly stated project goals and the objectives and methods are appropriate to achieve the objectives. • 5 = The proposed project has identified goals and objectives, but the methods are not completely described. • 0 = The proposed project lacks clear goals and objectives and the methods are not described.	**0-10**
Are the proposed project methods and protocols appropriate for accomplishing the goals and objectives? • 10 = The project design is clear and employs acceptable methods and/or established protocols. • 5 = The project is plausible, but it is unclear whether the goals can be accomplished using the proposed methods. • 0 = The project design is unclear or does not include appropriate methods.	**0-10**
Is there a demonstrated level of community support and commitment to prevent or control AIS and opportunity to provide specific ecological and community benefits? • 10 = Level of community support is clearly documented through past efforts and current letters of support. • 5 = Level of community support is somewhat documented through past efforts OR current letters of support. • 0 = Level of community support is not documented through past efforts nor does the application contain any letters of support.	**0-10**

Are the proposed project tasks adequately described? • 10 = Task descriptions are clear, and it is evident what they will accomplish and the related expenses that will require reimbursement under an agreement. • 5 = Tasks are adequately described, but not all information requested was provided in the application. • 0 = The task information provided lacks detail and it is unclear how the task will accomplish project goals and objectives.	**0-10**
Overall, the grant application was presented well, and the information provided in the application demonstrates a strong likelihood of success.	**0-10**
The proposed project includes matching funds.	**Y/N**
PROJECT MANAGEMENT	
Does the project team have the collective experience, education and capacity to lead the proposed project to a successful outcome? • 10 = The team has documented their experience, education, and capacity to lead the project successfully. • 5 = The team has some experience in leading projects regarding invasive species management. • 0 = The project team has no experience in leading projects regarding invasive species management	**0-10**
Past performance (if applicable). The applicant previously received AIS grant funding, and successfully completed the project, met project goals, and administration/management of the grant was acceptable.	**P/F**
ON-THE-GROUND CRITERIA	
This project was developed in cooperation with AIS managers and builds coalitions and partnerships to address AIS issues. • 10 = Multiple stakeholder groups are identified, and the project demonstrates that it will help them connect with AIS resources • 5 = One or more stakeholder groups are identified, and the project vaguely describes how it will help them connect with AIS resources. • 0 = Stakeholder groups are not identified, and it is unclear how they will connect with AIS resources.	**0-10**
The project expands hands-on learning that expands AIS management capacity and encourages participants to become more knowledgeable about managing AIS. • 10 = The project is action oriented and provides clear ways in which participants will learn about AIS management. • 5 = The project is vague about how project participants will expand their AIS management knowledge. • 0 = The project does not address how participants will expand their AIS management knowledge.	**0-10**

This project incorporates an appropriate monitoring or evaluation plan that will effectively track progress. • 10 = A descriptive monitoring plan is included in the application. • 5 = The application refers to a monitoring plan but does not provide specifics. • 0 = The application does not mention a monitoring plan.	**0-10**
EDUCATION AND OUTREACH CRITERIA	
This education project will promote public awareness about the impacts of AIS on aquatic habitats and natural resources and illustrate opportunities for action. • 10 = The project will reach multiple stakeholder groups and the public with direct actions. • 5 = The project reaches a fair number of stakeholders and the public. • 0 = It is not clear who the project would reach and how broad reach would be.	**0-10**
The project emphasizes hands-on learning that encourages participants to become more knowledgeable about AIS and its management. • 10 = The project is action oriented and provides clear ways in which participants can engage in AIS. • 5 = The project is vague about how hands-on learning would be achieved. • 0 = The project does not include any hands-on learning opportunities.	**0-10**
This project includes evaluation of its effectiveness using acceptable methods. • 10 = The project clearly demonstrates how impact and reach will be measured. • 5 = The project includes some metrics for measuring impact and reach. • 0 = The project does not provide metrics or the metrics are not acceptable methods.	**0-10**
RESEARCH CRITERIA	
This project was developed in cooperation with natural resource managers to address management needs. • 10 = The project clearly demonstrates coordination and strategic actions with land managers. • 5 = The project demonstrates some coordination with land managers. • 0 = The project is not coordinated with land managers.	**0-10**
This research project will increase knowledge of AIS and/or improve an important aspect of management. Results will be effectively disseminated so it reaches the on-the-ground manager. • 10 = Research results will be disseminated and will clearly increase knowledge of AIS and/or AIS management particularly for high-priority species or methods. • 5 = Research results will increase knowledge in AIS and/or AIS management.	**0-10**

• 0 = Research results are not that important to AIS or AIS management.	
The research will enhance a new or existing method for addressing AIS. • 10 = The research project is a gap in existing methods of AIS and is needed. • 5 = The research project may enhance a new or existing method of AIS. • 0 = The research project is unlikely to enhance a relevant new or existing method of AIS.	**0-10**

INELIGIBLE APPLICATIONS

Ineligible applications are those which are submitted after the due date. Applications not submitted on the proper forms, or are incomplete, may also be considered ineligible for funding assistance.

CONFLICT OF INTEREST

Council members may participate in project discussion and deliberations but should abstain from promotion of a project they are actively involved in (including the organization they are representing). This does not preclude council members from voting on the final ranked list of projects that is derived by consensus of the members. If a conflict of issue arises, the project(s) in question will be voted on separately and the member with the conflict of interest will abstain from that vote. A majority of council members present at a grant hearing is sufficient to vote and adopt the ranked list of projects—a quorum of the full council is not required.

REQUIRED GRANT AGREEMENT DELIVERABLES

Upon award of a grant, **the grantee must enter into a grant agreement with DNRC**. Under terms of the agreement, the grantee must submit periodic progress reports and a final report of project activities.

PAYMENT

The grant agreement will not be effective until signed and dated by representatives of DNRC and the grantee. **Expenses incurred before the grant agreement becomes effective will not be reimbursed**. The agreement termination date will depend on the project schedule. Term extensions may be granted upon request and justification for up to, but no longer than one year, beyond the original termination date.

DNRC will reimburse project costs upon **receipt and approval of requests for payment, supporting documentation,** and **accompanying progress reports.** The Project Sponsor shall report on total project costs, including those funded by the Project Sponsor and other matching funds. The Project Sponsor will receive the final payment based on the total of actual costs submitted, not to exceed the total contracted amount, upon delivery of a final report and a final invoice.

REPORTING

Progress reports are required with each reimbursement request or on a quarterly basis, whichever occurs sooner. Progress reports must include project activities during the reporting period, costs incurred, funds remaining, anticipated activities during the next reporting period, and expected changes in scope, schedule or budget. Reported project costs must include those funded by the Project Sponsor and matching funds.

DNRC will release final payment based on the total of actual costs submitted, not to exceed the total contracted amount, upon delivery of a final report, final invoice, and other deliverables as outlined in the grant agreement, e.g. survey data sets. The final invoice must accurately account for all grant expenses for contractors and grantee expenses for time and materials, including hourly rates and work hours, contract award amount, total grant amount expended, grant amount received, and remaining grant balance, if any.

PROCUREMENT AND PERMITTING REQUIREMENTS

Grantees agree to comply with all relevant procurement and contracting requirements related to work performed under DNRC grant agreements. In some cases, DNRC retains the right to approve subcontracts.

Grantees are responsible for conducting all necessary environmental assessments and obtaining all necessary local, state, and federal permits for the completion of projects approved for funding through the AIS Grant Program. Landowner permission must be secured for projects on private land before contracting.

Appendix A:

*Indicates present in Montana

1. **Montana Noxious Weed List under the authority of MT Department of Agriculture**
   Effective: June 21, 2019

PRIORITY 1A These weeds are not present or have a very limited presence in Montana. Management criteria will require eradication if detected, education, and prevention:

(a) Yellow starthistle (*Centaurea solstitialis*)
(b) Dyer's woad *(Isatis tinctoria*)
(c) Common reed *(Phragmites australis ssp. australis)*
(d) Medusahead *(Taeniatherum caput-medusae)*

PRIORITY 1B These weeds have limited presence in Montana. Management criteria will require eradication or containment and education:

(a) Knotweed complex (*Polygonum cuspidatum, P. sachalinense, P. × bohemicum, Fallopia japonica, F. sachalinensis, F. × bohemica, Reynoutria japonica, R. sachalinensis, and R.× bohemica*)
(b) Purple loosestrife (*Lythrum salicaria*)
(c) Rush skeletonweed (*Chondrilla juncea*)
(d) Scotch broom (*Cytisus scoparius*)
(e) Blueweed (*Echium vulgare*)

PRIORITY 2A These weeds are common in isolated areas of Montana. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts:

(a) Tansy ragwort (*Senecio jacobaea, Jacobaea vulgaris*)
(b) Meadow hawkweed complex (*Hieracium caespitosum, H. praealturm, H. floridundum, and Pilosella caespitosa*)
(c) Orange hawkweed (*Hieracium aurantiacum, Pilosella aurantiaca*)
(d) Tall buttercup (*Ranunculus acris*)
(e) Perennial pepperweed (*Lepidium latifolium*)
(f) Yellowflag iris (*Iris pseudacorus*)
(g) Eurasian watermilfoil (*Myriophyllum spicatum, Myriophyllum spicatum x Myriophyllum sibiricum***)**
(h) Flowering rush (*Butomus umbellatus*)
(i) Common buckthorn *(Rhamnus cathartica L.)*
(j) Ventenata *(Ventenata dubia)*

PRIORITY 2B These weeds are abundant in Montana and widespread in many counties. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts:

(a) Canada thistle (*Cirsium arvense*)
(b) Field bindweed (*Convolvulus arvensis*)
(c) Leafy spurge (*Euphorbia esula*)
(d) Whitetop (*Cardaria draba, Lepidium draba*)
(e) Russian knapweed (*Acroptilon repens, Rhaponticum repens*)
(f) Spotted knapweed (*Centaurea stoebe, C.maculosa*)
(g) Diffuse knapweed (*Centaurea diffusa*)
(h) Dalmatian toadflax (*Linaria dalmatica*)

(i) St. Johnswort (*Hypericum perforatum*)
(j) Sulfur cinquefoil (*Potentilla recta*)
(k) Common tansy (*Tanacetum vulgare*)
(l) Oxeye daisy (*Leucanthemum vulgare*)
(m) Houndstongue (*Cynoglossum officinale*)
(n) Yellow toadflax (*Linaria vulgaris*)
(o) Saltcedar (*Tamarix spp*.)
(p) Curlyleaf pondweed (*Potamogeton crispus*)
(q) Hoary alyssum (*Berteroa incana*)

PRIORITY 3 Regulated Plants: (NOT MONTANA LISTED NOXIOUS WEEDS)
These regulated plants have the potential to have significant negative impacts. The plant may not be intentionally spread or sold other than as a contaminant in agricultural products. The state recommends research, education and prevention to minimize the spread of the regulated plant.

(a) Cheatgrass (*Bromus tectorum*)
(b) Hydrilla (*Hydrilla verticillata*)
(c) Russian olive (*Elaeagnus angustifolia*)
(d) Brazilian waterweed (*Egeria densa*)
(e) Parrot feather watermilfoil (*Myriophyllum aquaticum or M. brasiliense*)

2. Aquatic Invasive Species under the authority of MT Department of Fish, Wildlife & Parks

This list is dynamic and is subject to change as knowledge of individual species increases.

*Indicates present in Montana

Aquatic Invasive Plants

a) Fragrant waterlily* (*Nymphea odorata*)
b) Starry stonewort (*Nitellopsis obtuse*)
c) Yellow floating heart (*Nymphoides peltata)*
d) Variable-leaf milfoil (*Myriophyllum heterophyllum)*
e) Fanwort (*Cabomba caroliniana)*
f) Common water hyacinth (*Eichhornia crassipes)*
g) Brittleleaf naiad (*Najas minor)*

Aquatic Invasive Animals

a) Quagga mussel (*Dreissena rostriformis bugensis)*
b) Zebra mussel (*Dreissena polymorpha)*
c) New Zealand mudsnail* (*Potamopyrgus antipodarum)*
d) Asian clam (*Corbicula fluminea)*
e) Chinese mysterysnail (*Cipangopaludina chinensi, Cipangopaludina chinensis malleata)*
f) Faucet snail* (*Bithynia tentaculata)*
g) Red-rim melania* (*Melanoides tuberculata)*
h) Fishhook waterflea (*Cercopagis pengoi)*
i) Spiny waterflea (*Bythotrephes longimanus)*
j) American bullfrog* (*Lithobates catesbeianus)*
k) Rusty crayfish (*Orconectes rusticus)*
l) Virile crayfish (*Orconectes virilis)*
m) Red swamp crayfish (*Procambarus clarkia)*

Invasive Fish

a) Bighead carp (*Hypophthalmichthys nobilis)*
b) Black carp (*Mylopharyngodon piceus)*
c) Silver carp (*Hypophthalmichthys molitrix)*
d) Grass carp (*Ctenopharyngodon idella)*
e) Tench (*Tinca tinca)*
f) Ruffe (*Gymnocephalus cernua)*
g) Round goby (*Neogobius melanostomus)*
h) Zander (*Sander lucioperca)*
i) Northern snakehead (*Channa argus)*

Aquatic Pathogens

a) Chytrid Fungus (*Batrachochytrium dendrobatidis)*
b) Proliferative Kidney Disease (PKX) (*Tetracapsuloides bryosalmonae*)
c) Viral hemorrhagic septicemia (VHS) (*Oncorhynchus 2 novirhabdovirus)*
d) Whirling disease (*Myxobolus cerebralis)*