

Secure Rural Schools & Community Self-Determination Act
Reauthorized by Public Law 115-141
Title II Project Submission Form
USDA Forest Service

Prince William Sound Resource Advisory Committee
Project Number (Assigned by Designated Federal Official):

Funding Fiscal Year(s): 2024 - 2026

2. Project Name: Engaging Citizens in Invasive Plant Management	3a. State: Alaska 3b. County(s): Cordova
4. Project Submitted By: Copper River Watershed Project	5. Date: 01/23/2024
6. Contact Phone Number: (907)-424-3334	7. Contact E-mail: stewardship@copperriver.org

8. Project Location:	
a. National Forest(s): Chugach National Forest	b. Forest Service District: Cordova Ranger District
c. Location (Township-Range-Section) T15S, R3W, Sections 28, T24S, R5E, Section 18 and 7	

9. Project Goals and Objectives:
The overall goal of this three-year project is to expand community engagement in control, eradication, and monitoring activities targeted at invasive plant species in the City of Cordova and the surrounding Chugach National Forest. In our proposed “Adopt a Pest” program, Copper River Watershed Project (CRWP) will teach Cordova community members the importance of preventing the introduction and spread of invasive plants and will amplify information about the diverse management strategies and their relative effectiveness for controlling and working towards eradication of reed canarygrass (*Phalaris arundinacea*). CRWP will involve citizens in a variety of management strategies at assigned infestations, including: manually pulling, mowing, tarping, seed head clipping, and monitoring of treatments. Additionally, a citizen science monitoring program will be set up to help track yellow flag iris (*Iris pseudacorus*) and Canada thistle (*Cirsium arvense*) infestations before, during and after treatment with key partners at the Cape St. Elias Lighthouse buildings on Kayak Island, located on the far Eastern edge of the Copper River Delta.

Objective 1: Increased community engagement in manual treatment of reed canarygrass in Cordova.
In response to recent community concern over the use of herbicides to treat terrestrial invasive plant species in Cordova, CRWP is seeking additional funds to develop an “Adopt a Pest” program that will increase community education, outreach and involvement in manual control strategies for the highest priority species in Cordova, reed canarygrass (RCG). RCG has the ability to grow dense rhizome mats that create a monoculture which helps outcompete native species, even filling in open water, and one of the reasons it is so difficult to remove. RCG can also persist in the form of floating mats, which during flooding events produce nodes that fragment and spread to new areas and establish itself within 3 months of travel.

One goal of Adopt a Pest is to engage community members in manual control strategies in order to increase community understanding of how to identify RCG and the relative effort and effectiveness of a variety of manual control methodologies. As a result of participating in Adopt a Pest, community members will better understand the investment of time and labor needed to implement manual control of invasive species. Additionally, soil testing will occur as part of a state-wide effort led by the U.S. Forest Service to evaluate the potential impacts of herbicide used to eradicate invasive species on non-targeted species.

Objective 2: Engage visitors in long-term effectiveness monitoring of invasive species treatments at Cape St. Elias Lighthouse.

There are known infestations of yellow flag iris (*Iris pseudacorus*) and Canada thistle (*Cirsium arvense*) at Kayak Island, a remote island on the northern coast of the Gulf of Alaska, site of Captain Cook's first landing in Alaska, and the site of the tourist destination the Cape St. Elias Lighthouse. Canada thistle commonly invades disturbed ground, including roadsides, riparian areas, beach meadows, and sand dunes, where a single plant can produce over 40,000 seeds per year that are dispersed via water. Yellow flag iris grows in wetlands, floodplains, riverbanks, freshwater, and rocky coasts where disturbances in the form of flooding can spread this species.

An objective of this proposal is to treat these highly invasive species and engage citizens in the continued monitoring of these infestations. Due to the complicated logistics of reaching this site and the fact that there are no permanent human populations, herbicide will be the primary method of treatment. To engage citizens, a manual will be developed and left at the lighthouse so visitors can assist with the monitoring of the site, helping to identify changes to the spread of target species by collecting photos and measurements, and to help identify any new infestations that might get established or are not currently documented.

10. Project Description:

a. Brief: (*in one sentence*)

Expand community engagement in control methods and effectiveness monitoring of invasive species treatment around Cordova, AK and the adjacent Chugach National Forest.

b. Detailed:

Project background:

CRWP has been coordinating with the U.S. Forest Service Cordova Ranger District on invasive plant management since 2011. Original surveys in 2011 recorded several populations of invasive plants in and around the City of Cordova, including the highly ranking invasive species reed canarygrass (RCG). RCG is ranked 83 in the statewide database Alaska Exotic Plants Information Clearinghouse (AKEPIC), which displays the locations and data specific to all known infestations of invasive species throughout Alaska. The rankings are based on their invasiveness according to the species' ecological impacts, biological attributes, and response to control measures with 0 representing a plant that poses no threat and 100 being a plant that poses a major threat to native ecosystems. RCG has the potential to infest more of the Copper River Delta with negative impacts to wetlands, fish, insects, birds, and even mammals. This invasive plant changes soil structures, increases sedimentation in waterways, decreases water velocity, and reduces landscape variety.

Vehicle, pet, and recreational gear are all vectors for the potential movement of invasive plants onto the world class Copper River Delta, so CRWP and USFS have adopted best practices for Early Detection and Rapid Response. Control and monitoring efforts began shortly after the 2011 surveys using manual and eventually chemical treatments. While the use of chemical treatments have been the

most effective, there has been community concern and interest shown in assisting with alternative methods to treating RCG. This project will build a framework that engages residents in an “Adopt-a-pest” program where they adopt an infestation and work closely with CRWP to experience first-hand invasive plant management and the time commitment it takes to effectively rid Cordova areas of invasive plants using manual control methods.

Additionally, USFS has identified two highly ranking invasive species on Kayak Island; Canada thistle (ranked 76) and yellow flag iris (ranked 66) that are found around the Cape St. Elias Lighthouse. While it’s unknown how these species originally got to Kayak Island (for example carried by ocean currents, human activities, or bird migration) all of the activities have the potential to spread these highly ranking invasives to the Copper River Delta. As Canada thistle colonies grow, they displace desirable native vegetation and degrade wildlife habitat the more their seeds travel. Yellow flag iris seeds will thrive in seawater after being soaked for weeks and can germinate along shorelines. Kayak Island is passed by the Alaska Coastal Current which continues northwest along the Gulf coast and could deliver Canada thistle and yellow flag iris seeds to the Copper River Delta.

The Alaska Invasive Plant Management (AKIPM) program led by University of Fairbanks addresses the need for pest management education within the state and also reports the invasive plant rankings. Offering nonbiased, research-based information, this resource is widely used by organizations across the entire state. CRWP is participating in the Education & Outreach Committee with the Alaska Invasive Species Partnership (AKISP) where they will focus on herbicide messaging to the community in 2024. By participating in state-wide discussions and professional development opportunities, CRWP can continue to incorporate accurate information to describe invasive plant management best practices with the community of Cordova.

Objective 1: Increased citizen science engagement in manual treatment of reed canarygrass in Cordova.

CRWP seeks to continue conversations with target audiences in Cordova to both inform and motivate them to play an active part in keeping Alaska wild and free of invasive species. The primary method will be to engage residents using citizen science practices. Citizen science is a form of open collaboration in which individuals or organizations participate voluntarily in the scientific process in various ways, including formulating research questions, creating and refining project design, conducting scientific experiments, collecting and analyzing data, and interpreting the results of data. With good training and quality assurance processes in place, anyone can be a Citizen Scientist and contribute meaningful data and information. The act of contributing to the community of Cordova’s mitigation and management of invasive species will instill a sense of pride and ownership for the participants. The activities of making observations, collecting data, and connecting with the community further accomplishes CRWP’s education and outreach goals.

The goals for the citizen science aspect of the program are to share information on RCG with volunteers so they will gain a better understanding of the potential harm this invasive species poses to our native ecosystems, as well as the relative investment of time and energy needed to implement manual control activities. First, CRWP will continue to educate the audience on how to confidentially identify target species and report infestations. CRWP will also instill the need to help prevent the introduction and spread of invasives by teaching how to use caution when around invasive species, and other topics of consideration identified by partners.

CRWP’s primary citizen science strategy will be called Adopt a Pest, a program where appointed volunteers will “adopt” an RCG infestation and work under the guidance of the Watershed Stewardship Program Manager to control and monitor the infestation. The program will enable

interested Cordova community members to play an active role in invasive plant management efforts. One or multiple appointed volunteers will assist in the monitoring of various RCG sites, ideally for multiple years given the need to repeat manual treatments. Eradication is possible if several years are dedicated to the upkeep and a higher level of monitoring is implemented.

CRWP will meet with U.S. Forest Service to prioritize sites for this program, and will recruit volunteers through CRWP communication networks, targeting participants in previous conversations outspoken against the use of herbicide. The CRWP Program Manager and seasonal technicians will help volunteers with the initial assessment of the site. Then CRWP will communicate with appointed volunteers to help identify when activities should occur, for example when to mow, how to properly pull weeds, when to cut seed heads, etc. For some sites tarping might be the proposed action, and CRWP will assist with the installation of the tarping, with citizens playing a role in monitoring the tarps and maintaining them as needed. Citizen science monitoring surveys will be created in a user-friendly format, like Survey 123, to allow appointed volunteers to complete and send in their own post-treatment monitoring data.

The proposed control methods volunteers will perform include seed head removal, tarping, manual pulling, and mowing of RCG within and around the City of Cordova to demonstrate to the manual labor efforts necessary to result in a decrease in spread of the invasive. The attached Figure 1 below are the proposed sites to perform said manual control methods. A more in depth breakdown of selection and locations will be identified with partners involved and once discussions have been held. Following is a summary of these methods:

Seed head removal of RCG can assist in the reducing of the timeline for treatment of a particular area. RCG seeds can remain viable for up to 7 years, hence it is important to reduce the number of seeds that are allowed to mature. Seed head clipping can be labor intensive and time sensitive, but state-wide there have been positive impacts from this activity. The treatment strategy will be used in conjunction with all manual and mechanical efforts CRWP will implement in the following three years.

Tarping may be effective if left in place and maintained for several years. The tarping technique may not be suitable for large infestations due to the need for large areas to be closed off. Tarping must remain in place for several years; therefore, we will avoid areas where aesthetics are of concern, such as near public use areas. Tarping aims to take away RCG's access to sunlight.

The **manual hand removal** efforts are most effective in combination with close observation and several years of repeated treatments. For small infestations, RCG plants may be manually removed by digging, collecting all plant parts, and disposing of them in a burn pile. Not only does RCG spread via seed germination, but it spreads through rhizome growth below the soil surface. Significant amounts of careful digging are required to avoid leaving any rhizome fragments behind. Special care must be taken to clip and collect any inflorescences before digging begins, as digging may inadvertently spread RCG seeds.

Mowing can reduce aboveground biomass prior to tarping, digging, or herbicide application to make these control methods easier to carry out. Mowing can also be used on a regular basis to keep a population in check by preventing seed head development. Continued mowing before seed germination has shown a reduction of seed head generation. Research elsewhere indicates that mowing 1-2 times per years stimulates growth, while mowing 5+ times per year for 5-10 years is effective.

Additional outreach will occur through public presentations, guided field trips, demonstrations to engaged audiences, one-on-one contact, and community festivals like Salmon Jam. The CRWP and partners will also expand their education efforts to include youth participants in programs currently coordinated by Cordova School District, CRWP, and the Prince William Sound Science Center. Youth audiences will also assist with eradication activities to help plant a sense of ownership and responsibility for protecting our public lands from invasive plants.

In response to Cordova community concern about herbicide treatments, CRWP is requesting funds to support the USFS effort to test soil samples near infestations treated by herbicide. USFS is discussing a plan to sample soil at various places throughout the state, and we are seeking financial support to contribute Cordova soil samples to the evaluation.

The estimated budget for Objective 1: Adopt a Pest is \$35,529.42 total for three years. Roughly half of the total will be used in year 1 for program development, and a quarter for the remaining two years to continue program implementation, evaluation, and fine-tuning based on evaluation.

Objective 2: Engage visitors in long-term effectiveness monitoring of invasive species treatments at Cape St. Elias Lighthouse.

On Kayak Island, Canada thistle has spread throughout the Cape St. Elias Lighthouse grounds totaling 0.09 acres in size with a high percentage of coverage. Canada thistle produces allelopathic chemicals that assist in displacing competing plant species, which amplifies its ability to threaten natural communities by competing for water and nutrients and ultimately decreasing species diversity. Canada thistle is a perennial weed that spreads through seed dispersal and rhizome/root spread. Chemical treatment is ideal as hand removal of the weed is usually impractical due to the difficulty to remove the entire root system which is comprised of a vigorous underground growth with a thick coating of protective hairs.

Treatment of Canada thistle will also address a smaller (0.01 acre) yellow flag iris infestation present on the lighthouse grounds. Not only does yellow flag iris spread via seed germination and via rhizomes or root material below ground, but it is also toxic to humans and when touched can irritate the skin, making it challenging to address. The plant can normally grow along stream banks, and when established, has the ability to reduce stream width up to 10 inches each year by trapping and depositing sediments. It can also stay afloat on water for two months, and can germinate after being soaked with saltwater for up to 31 days. In conclusion, the invader grows well in areas that are naturally disturbed by water movement, which is a common occurrence on the Copper River Delta.

Additionally, due to the number of repeat visits required to make manual treatment effective and the challenges of accessing remote Kayak Island, chemical herbicide is the primary treatment of both Canada thistle and yellow flag iris. The application of the herbicide will be performed either through a partnership with USFS, or by contracting a certified herbicide applicator. The Program Manager and seasonal technicians may be on site to assist in application, surveying, and monitoring if necessary. Canada thistle responds best to two herbicide treatments per year, a spring treatment eliminating above ground vegetation followed by a fall treatment when the plant is storing nutrients in the roots for winter and before the first freeze stuns it. By using a translocating systemic herbicide migrating to the root system, control and eradication can be possible due to the infestations small size. Spring treatments can be partnered with pre-season inventory and monitoring. Follow up end of year monitoring of treatments will also take place to monitor the efficacy of the herbicide treatments. For yellow flag iris, it is best to apply herbicide to active growing windows of time and before flowering in late spring or early summer. When feasible, treatments will occur simultaneously.

Strategic partnerships will help offset the expenses of repeat visits to this site and help engage visitors to the Island in long-term monitoring of infestations here. CRWP has initiated coordination with the Ocean Plastics Recovery Project (OPR) that strives to remove ocean plastics from the natural environment; to identify and develop reuse, recycling, and recovery alternatives for ocean plastics, and demonstrate this work to the global community. An OPR team of 12 will be conducting beach cleanups on the majority of Kayak Island’s shorelines for the next 2-5 years with potential for extended years if additional grants are acquired. Early communication between OPR and CRWP has confirmed an intent to join forces in monitoring for invasive species on the island. OPR has expressed interest in being trained on precautionary measures to implement when traveling on the island to prevent the spread of known infestations, and assist with identifying new infestations. This partnership will also support CRWP’s involvement in treating the current infestations by sharing flights to get certified herbicide applicators to and from the site. OPR has confirmed support of this type of treatment. CRWP will develop citizen science surveys for the monitoring of Canada thistle and yellow flag iris that will be used by the OPR crew for future years to monitor treatments and track changes in the size of infestations.

Additionally we will enhance outreach and education efforts at the lighthouse in partnership with the Cape St. Elias Lightkeepers Association (CSELA), a 501(c) (3) nonprofit made up of a team of dedicated Cordova locals that strive to preserve and attempt to restore the Cape St. Elias lighthouse station for public use. Visitors to the lighthouse are mostly Alaskans, but also visitors from all over the world. In collaboration with CSELA, CRWP seeks to create and install interpretative signage in or near the Cape St. Elias structures that educate visitors about invasive plants, and engage them in monitoring the infestations around the boathouse through established photo points. We will also create and distribute Invasive Plant Identification Cards, specifically including Canada thistle and yellow flag iris to highlight how to keep these plants from being spread beyond the island through movement of materials, pets, planes, helicopters and boats. We will share these cards with local aviation outfits, the Cape St. Elias Lightkeepers Association, and the USFS Cordova Ranger District. Distribution of these materials will help raise awareness and decrease spread of plants to Cordova and the Copper River Delta.

The estimated budget for Objective 2: Kayak Island \$60,243.89 for three years. Roughly half will be used in year 1 for program development, and a quarter for the remaining two years for continued program implementation, evaluation and fine-tuning based on evaluation.

11. Types of Lands Involved?

State/Private/Other lands involved? Yes No

Land Status:

If Yes, specify: ADOT, City of Cordova, Native Village of Eyak, US Forest Service and Private Cape St. Elias Lighthouse.

12. How does the proposed project meet purposes of the Legislation? (Check at least 1)

- Improves maintenance of existing infrastructure.
- Implements stewardship objectives that enhance forest ecosystems.
- Restores and improves land health.
- Restores water quality

13. Project Type	
a. Check all that apply: (check at least 1)	
<input type="checkbox"/> Road Maintenance	<input type="checkbox"/> Trail Maintenance
<input type="checkbox"/> Road Decommission/Obliteration	<input type="checkbox"/> Trail Obliteration
<input type="checkbox"/> Other Infrastructure Maintenance (specify):	
<input checked="" type="checkbox"/> Soil Productivity Improvement	<input checked="" type="checkbox"/> Forest Health Improvement
<input type="checkbox"/> Watershed Restoration & Maintenance	<input type="checkbox"/> Wildlife Habitat Restoration
<input type="checkbox"/> Fish Habitat Restoration	<input checked="" type="checkbox"/> Control of Noxious Weeds
<input checked="" type="checkbox"/> Reestablish Native Species	<input type="checkbox"/> Fuels Management/Fire Prevention
<input type="checkbox"/> Implement CWPP Project	<input type="checkbox"/> Other Project Type (specify):
b. Primary Purpose (select only 1 from above):	

14. Identify What the Project Will Accomplish
Miles of road maintained:
Miles of road decommissioned/obliterated:
Number of structures maintained/improved:
Acres of soil productivity improved:
Miles of stream/river restored/improved:
Miles of fish habitat restored/improved:
Acres of native species reestablished:
Acres of hazardous fuel treatment:
Miles of trail maintained:
Miles of trail obliterated:
Acres of forest health improved (including fuels reduction):
Acres of rangeland improved:
Acres of wildlife habitat restored/improved:
Acres of noxious weeds controlled: 4.03 acres
Timber volume generated (mbf):
Jobs generated in full time equivalents (FTE) to nearest tenth. One FTE is 52 forty hour weeks: Roughly half 1 FTE, plus two seasonal technicians at 12 weeks each = 0.75 FTE
People reached (for environmental education projects/fire prevention): 500
Direct economic activity benefit:

Other:

15. Estimated Project Start Date: April, 2024	16. Estimated Project Completion Date: December 31, 2026
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17. List known partnerships or collaborative opportunities.

The Copper River Watershed Project will coordinate with the USFS Cordova Ranger District, City of Cordova, Alaska Department of Transportation, volunteers from Cordova, Cordova School District, and the Prince William Sound Science Center.

18. Identify benefits to communities.

It is the community response to the alternative use of chemical methods to treat RCG that have led to the proposed Adopt a Pest program. Therefore the community will benefit from having an opportunity to participate in an alternative approach to controlling and working towards eradication of RCG. The elimination of invasive plant species promotes and restores native vegetation and enhances native plant diversity. Removal of invasive plants also prevents introduction and further spread into nearby habitat, such as Prince William Sound and the Copper River Delta. Small populations of invasive plants are not only easier to control than large infestations, they are less costly to treat than large-scale treatments that are required if populations are left to spread.

Additionally, Cordova is visited frequently during the summer season as a gateway to Prince William Sound and the Copper River Delta. Removal of invasive species will help keep these world-class tourist destinations more pristine and support the tourist economy of Cordova.

19. How does the project benefit federal lands/resources?

Controlling invasive plant infestations will likely limit or prevent the spread of invasive plants to federal lands, thus protecting the native plant diversity and overall ecosystem health. The potential spread of invasive plants to riparian zones and other aquatic sites may degrade overall watershed health. Rapid response to invasive plants and subsequent prevention of spread is critical to successful control and eradication.

20. What is the Proposed Method(s) of Accomplishment? (check at least 1)	
<input type="checkbox"/> Contract	<input type="checkbox"/> Federal Workforce
<input type="checkbox"/> County Workforce	<input checked="" type="checkbox"/> Volunteers
<input type="checkbox"/> Grant	<input checked="" type="checkbox"/> Agreement
<input type="checkbox"/> Americorps	<input type="checkbox"/> YCC/CCC Crews
<input type="checkbox"/> Job Corps	<input type="checkbox"/> Stewardship Contract
<input type="checkbox"/> Merchantable Timber Pilot	<input type="checkbox"/> Other (specify):

21. Will the Project Generate Merchantable Timber? Yes No

22. Anticipated Project Costs
a. Title II Funds Requested: \$95,773.31
b. Is this a multi-year funding request? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

23. Identify Source(s) of Other Funding:

CRWP has a current agreement with USFS for RAC funding that is being used for our broader efforts to manage invasive plant around Cordova. This request will supplement and allow for specific programs that engage the community in new ways. We have in-kind contributions to assist with travel to and from Kayak Island from CSELA and OPR, as well as partner time for monitoring activities.

24. Monitoring Plan (provide as attachment)

- a. Provide a plan that describes your process for tracking and explaining the effects of this project on your environmental and community goals outlined above.
- b. Identify who will conduct the monitoring:
- c. Identify total funding needed to carry out specified monitoring tasks (Worksheet 1, Item k):

25. Identify remedies for failure to comply with the terms of the agreement.

If project cannot be completed under the terms of this agreement:

- Unused funds will be returned to the RAC account.
- Other, please explain:

Project Recommended By:

/s/ (INSERT Signature)
Chairperson

Resource Advisory Committee

Project Approved By:

/s/ (INSERT Signature)
Forest Supervisor

_____ National Forest

Project Cost Analysis Worksheet

Worksheet 1

Please submit this worksheet with your proposal

Item	Column A Fed. Agency Appropriated Contribution	Column B Requested Title II Contribution	Column C Other Contributions	Column D Total Available Funds
a. Field Work & Site Surveys		\$10,924.40		
b. NEPA/CEQA				
c. ESA Consultation				
d. Permit Acquisition				
e. Project Design & Engineering				
f. Contract/Grant Preparation				
g. Contract/Grant Administration				
h. Contract/Grant Cost		\$7,500.00		
i. Salaries		\$17,143.84		
j. Materials & Supplies		\$1,935.00		
k. Monitoring		\$36,168.53		
l. Other ex. Partner Indirect Cost		\$22,101.53		
n. Project Sub-Total		\$95,773.31		
o. FS Indirect Costs				
Total Cost Estimate		\$95,773.31		

NOTES :

Col. A: FS costs incurred as part of proposal implementation. Coordinate with FS to identify any FS cost for items in Col. A.

Col. B: Title II funding requested to implement the proposal.

Col. C: Matching funds being contributed by proponent or third parties. Proposals funded with a Participating Agreement will require a minimum 20% match.

Col. D: Sum of columns A, B, and C for each individual row.

Row A: Costs associated with project planning, not project implementation, such as assessment of miles of trail needing maintenance. Assessments and planning needed to develop a specific proposal. For Col. B: proponents must request permission in advance to request Title II funds to complete NEPA/CEQA analyses, as this is expected to be completed prior to proposal submission.

Rows B, C, D, and E: cost associated with environmental compliance and project design. Proponents must request permission in advance to request Title II funds to complete NEPA/CEQA analyses, as this is expected to be completed prior to proposal submission.

Row G: Costs associated with preparation of contract or agreement instruments used to implement the proposal. Contracts used to complete projects have special provisions; contact the FS to identify these early in the process.

Row G: Costs associated with administration of contract or agreement instruments used to implement the proposal.

Row H: Estimated value of any contracts/agreements used to implement proposal. Contracts/agreements used to complete projects have special provisions; contact the FS to identify these early in the process.

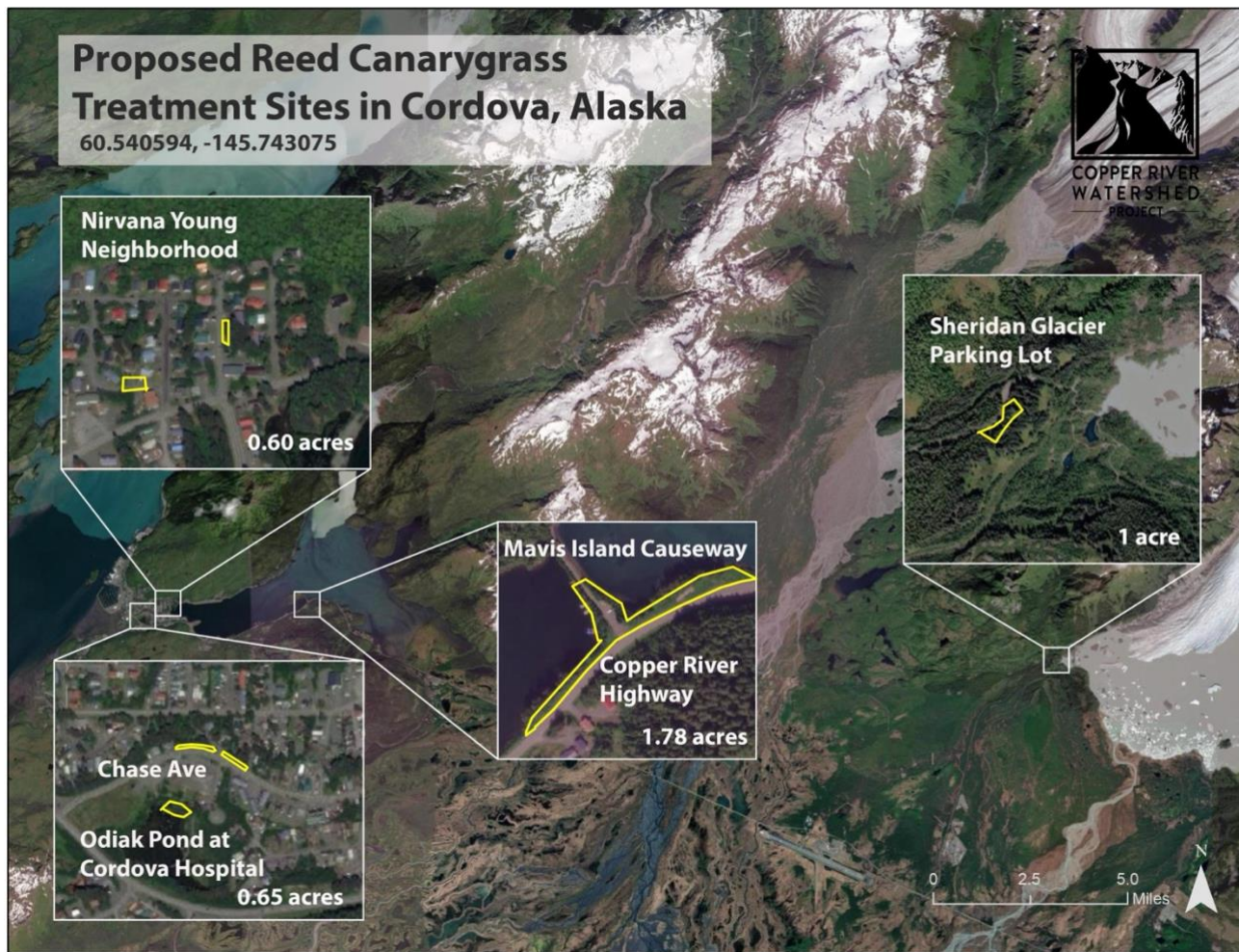
Row I: Cost of salaries to implement project

Row L: Examples include overhead charges from other partners, vehicles, equipment rentals, travel, etc.

Row K: Costs associated with performing monitoring described in Items 24a, 24b, and 24c. Amounts should be similar between Item 24 and Row K.

Row N: Forest Service indirect costs, including contracting/grant officer costs if needed.

Figure 1: Map of RCG infestation locations selected by CRWP to propose as manual control method Adopt a Pest sites.



Monitoring Plan: CRWP Engaging Citizens in Invasive Plant Management Project

- a. Provide a plan that describes your process for tracking and explaining the effects of this project on your environmental and community goals outlined above:

Copper River Watershed Project (CRWP) will primarily be engaging citizen scientists for monitoring invasive plant management efforts through the Adopt a Pest program. CRWP will use an Excel spreadsheet to log activities, track name and number of participants recruited, and time invested by volunteers and/or partners. CRWP Project Manager will work with CRWP Operations Manager and Communication Specialist to create a system for collecting and managing contact information and tracking volunteer communications. This information will help us determine what communication channels are effective for recruitment. Also, it will ensure contacts are gathered in a centralized location and communications are maintained with engaged volunteers.

CRWP will create a manual to support citizens in collecting data consistent with AKEPIC, which is the database used widely across the state by partner and other invasive species management organizations. There will be paper datasheets, as well as the option of using a Survey123 format via smartphones. A QR code will be included in the manual for volunteers. Successful completion of monitoring activities will determine if the manual is user-friendly. At the end of each field season, efforts will be evaluated and updates made as necessary. CRWP will track the number of data submissions to determine participation and quantify volunteer effort.

Surveys will primarily track estimated percent increase or decrease in coverage by evaluating estimated percent cover and total acreage. Other examples of data collected will be; location, native and non-native species present, invasive plant species ranking, and possible cross contamination methods present (i.e. nearby tourist destination, road, water, animal crossing, utility site, etc.).

CRWP staff will conduct on-site training with volunteers for the initial evaluation to ensure volunteers are trained in methodology. CRWP will also ground truth a sub-sample of sites after follow-up evaluations, in particular if there are questions regarding accuracy after reviewing submissions.

Photo points will be established and shared via the manual for volunteers to document changes over time using digital photographs, and the number of times a set of photo points is collected successfully will be monitored to determine effectiveness of citizen engagement efforts.

- b. Identify who will conduct the monitoring:

Volunteers from in and around Cordova will be performing the citizen science surveys to the reed canarygrass sites that are manually pulled, tarped, and mowed with the guidance of CRWP. The Ocean Plastics Recovery Project, Cape St. Elias Lighthouse Association and other visitors will assist in the monitoring efforts of yellow flag iris and Canada thistle on the remote, Kayak Island. Surveys in Cordova and Kayak Island will be used for at least the next three years. CRWP Program Manager will monitor citizen

engagement program effectiveness and report metrics like number of volunteers, number of site visits, and photo monitoring submissions to partners during an end of season evaluation each year.

- c. Identify total funding needed to carry out specified monitoring tasks:

CRWP plans to hire two seasonal technicians in the Cordova area to play a part in both invasive plant management and native seed collection. While actual monitoring is to be completed by volunteers, CRWP time to develop volunteer manuals, recruit, train and support volunteers during the field season, and to review data for quality and accuracy before submission to the statewide database are necessary aspects to effective monitoring of this project. An estimated 55% of staff time will be used to develop supporting materials and train citizen scientists, and quality check data.

Strategic partnerships with the Ocean Plastics Recovery Project (OPR) and the Cape St. Elias Lighthouse Association (CSELA) will help offset the expenses of repeat visits to the Kayak Island site via helicopter or plane. CRWP is estimating 1 spring and 1 fall trip to occur each year, and 4-8 OPR trips will overlap, as well as, CSELA anticipated travels in the early spring.



**OCEAN PLASTICS
RECOVERY PROJECT**

326 Center Ave. Suite 206
Kodiak, Alaska 99615
info@oceanplasticsrecovery.com

January 15, 2024

Prince William Sound Resource Advisory Committee (PWS RAC) Members
Tanya Zastrow, RAC Coordinator
U.S. Forest Service Chugach National Forest
P.O. Box 280 Cordova, AK 99574

Dear Mrs. Zastrow and the PWS RAC Members,

The Ocean Plastics Recovery Project (OPR) wishes to express support of Copper River Watershed Project's (CRWP) proposed project *Engaging Citizens in Invasive Plant Management* that will involve our staff and other visitors in long-term effectiveness monitoring of invasive species treatments at Cape St. Elias Lighthouse.

In June 2024 we will establish a large-scale remote monitoring site at Kayak Island which will serve as an indicator of global efforts to reduce marine debris pollution. This will involve a crew of 12 individuals living at Cape St. Elias Lighthouse full-time for 4-6 weeks each summer.

We understand that CRWP's intention is to eradicate Canada thistle and yellow flag iris at the Cape St. Elias Lighthouse through a variety of measures including chemical treatments. We request that no chemical treatments occur that restrict access to the lighthouse facilities during our work window, currently scheduled for Jun 3-Jul 12, 2024 and Jun 2-28, 2025. Outside of those dates, we will lend support to the program wherever possible, including the education and engagement of our crews in post-treatment monitoring, sharing facilities and communications, cost-sharing of chartered boats and aircraft. Naturally, we will work with the CRWP invasive plant team to train and assist with any precautionary measures to avoid spreading invasives through our work.

Furthermore, we invite CRWP to engage in our coastal cleanup efforts and support our goals of removing ocean plastics, which will help expand our understanding of marine debris as a potential source of future invasives.

OPR supports CRWP's mission and endeavors and looks forward to future collaborative efforts on the island and Prince William Sound area.

Sincerely,

Andy Schroeder
Co-Founder

January, 24 2024
Prince William Sound Resource Advisory Committee (PWS RAC) Members
Tanya Zastrow, RAC Coordinator
U.S. Forest Service Chugach National Forest
P.O. Box 280
Cordova, AK 99574

Dear Mrs. Zastrow and the PWS RAC Members,

On behalf of Cape St. Elias Lightkeepers Association, I am writing in support of Copper River Watershed Project's (CRWP) proposed project: Engaging Citizens in Invasive Plant Management that will involve our volunteers and other visitors in long-term effectiveness monitoring of invasive species treatments at Cape St. Elias Lighthouse.

Cape St. Elias Lightkeepers Association (CSELA), a 501(c) (3) nonprofit made up of a team of dedicated Cordova locals that strive to preserve and restore the Cape St. Elias lighthouse station for public use. In 2024, CSELA intends to renovate and refurbish some of the facilities for visitors, including volunteers from another project partner, the Ocean Plastics Recovery Project, who will be conducting beach clean-ups for the foreseeable future.

We have had initial discussions with CRWP regarding this project and are aware of the proposed herbicide application and encourage the eradication of Canada thistle and Yellow flag iris at the Lighthouse site. These efforts will also help us with our ongoing challenges in the influx amount of native vegetation occurring as well. We will share travel expense when weather and schedules allow and will coordinate on personnel and movement of supplies. CRWP has offered to train us about invasive plant infestations, in particular the precautionary measures we should take when arriving and leaving Kayak Island to prevent the spread of the invasives. We will also assist with citizen science surveys to monitor infestations and help evaluate treatment effectiveness in the years to come.

We also support the creation of information materials, including graphics, field manuals, etc., that educate visitors about invasive plants, and support visitor involvement in documenting via photos the boathouse and changes to vegetation surrounding the area.

CSELA is pleased to participate in and collaborate with CRWP to work towards eradication of these high priority invasive plants . Thank you for considering this request.

Sincerely,

John and Toni Bocci
CSELA volunteers