

Project Proposal Summary Sheet

Project Title: High Line Canal Russian Olive Control and Restoration

Project Location: High Line Canal (Denver Metro area)

Grant Type: Watershed Restoration Grant

Grant Request/Amount: \$31,350

Cash Match Funding: \$31,350

In-kind Match Funding: \$0.0

Project Sponsor(s): Year One Inc., dba Mile High Youth Corps; High Line Canal Conservancy

Contact person name, email address, and phone number: Claire Morrissy, Regional Manager: Land Conservation, clairem@mhyc.net, 303-433-1206 Ext. 229.

Brief description of the project: Mile High Youth Corps (MHYC) will partner with the High Line Canal Conservancy (the Conservancy) to begin the process of restoring the High Line Canal by mapping, inventorying, and removing invasive Russian olive from 19.2 miles of the corridor. As one of the longest (over 71 miles) continuous urban trails in the country, the Canal twists through the most populated area of Colorado while crossing multiple and varied communities. Over 350,000 residents reside within one mile of the Canal and recent data indicates that annually more than 500,000 people use the Canal as a recreational asset. As the Canal is decommissioned for irrigation delivery, the corridor's canopy is increasingly threatened by invasive trees which tax limited water resources and outcompete native and desired vegetation. If allowed to continue to spread along the corridor unchecked, established trees and new plantings will struggle to compete with Russian olive for increasingly limited water resources.

The requested CWCB grant will fund three weeks of MHYC Land Conservation chainsaw crews cutting and treating Russian olive, which will supplement a three week project funded by the Conservancy and their GOCO Resilient Communities Grant which MHYC is also partnering on. Through data collection, invasive tree removal, and herbicide application this six-week project will initiate a holistic approach to protecting and restoring the Canal's canopy.

Qualifications Evaluation (Maximum of 20 points)

Identify the lead project sponsor and describe the other stakeholders' level of participation and involvement. 10 points

Mile High Youth Corps and High Line Canal Conservancy will serve as the lead project sponsors for this proposal. During this project, MHYC will map and remove Russian olive from 19.2 miles of the Canal running through Denver, Greenwood Village, Centennial, and Unincorporated Arapahoe County. High Line Canal Conservancy staff will train MHYC Corpsmembers to use ESRI field mapping applications, including Collector, to collect baseline data about Russian olive. After mapping, Corpsmembers will control the Russian olive via cut stump treatments. Conservancy staff will begin planting native trees along the Canal once the project is completed.

Beginning the process of restoring the High Line Canal through Russian olive mapping and removal represents a collaborative effort by the many stakeholders involved in stewarding the Canal's natural resources. Guided by the priorities laid out in "The Plan for the High Line Canal" (the Plan), this project was planned by the Conservancy and is supported by Denver Water, the City of Centennial, the City of Greenwood Village, South Suburban Park and Recreation District (SSPRD), and the Southeast Metro Stormwater Authority (SEMSWA). This Russian olive removal has been authorized by Denver Water, the Canal's owner. Denver Water will also authorize MHYC to drive on the High Line Canal trail during the project. Mapping and control of Russian olive will support natural resource management along the Canal, which is jointly performed by Denver Water, Greenwood Village, SSPRD, and SEMSWA in this reach.

Specify in-kind services and cash contributions (match) amount for the proposed activities. See section B.2 of the grant program guidance to determine match funding requirements. Discuss whether other funding sources are secured or pending. 10 points

High Line Canal Conservancy Cash Match	
Three weeks MHYC chainsaw/pesticide application crew (secured)	\$31,350
Total In-Kind and Cash Match	\$31,350

Organizational Capability (Maximum of 30 points)

What is the applicant organization's history of accomplishments in the watershed? Provide several past project or planning examples. List partner organizations and agencies with whom applicant worked to implement past projects or planning efforts. 10 points

Mile High Youth Corps (MHYC) was established in 1992 to address the educational and employment needs of Colorado's youth while connecting them to their communities and the outdoors. MHYC is a comprehensive, year-round accredited youth corps serving over 200 young adults annually across 23 Colorado counties from Broomfield County to the New Mexico border.

MHYC's Land Conservation Program provides young adults, ages 18-24, with meaningful educational and service opportunities. They gain technical competencies and soft skills to prepare them for successful careers in natural resources. Corpsmembers in the Land Conservation Program apply for positions within the Summer of Service or Fall Forestry service terms. They work 40 hours a week as part of a crew of eight peers and two experienced Crew Leaders who provide daily oversight and serve as mentors and role models. Corpsmembers participate in single or multi-week projects to support the stewardship goals of local, state, and federal land management partners. MHYC crews complete pesticide application, sawyer work, habitat restoration, trail maintenance and construction, park infrastructure improvement, invasive species removal, and fire mitigation projects from April through November of each year.

Through this program's triple impact, MHYC protects the environment, improves communities, and provides vital economic and vocational opportunities for young people in the region. Below are two examples of similar services MHYC has performed on local watersheds in the past:

City of Lakewood Parks, Forestry, and Open Space – Bear Creek Greenbelt

The Bear Creek Greenbelt is a 350-acre open space park located in Lakewood, Colorado. The greenbelt is one of the most popular locations for biking and walking in Lakewood and includes roughly five and a half miles of trail running between Wadsworth and Kipling. Bear Creek runs through the property, creating a vibrant riparian ecosystem which attracts wildlife and birds and provides an ideal outdoor recreation and open space area.

In 2013 the City of Lakewood partnered with the City of Denver, the City of Englewood, and Fort Logan National Cemetery to begin a systematic effort to remove invasive Russian olive trees from Bear Creek Lake Park to the South Platte River. Bear Creek Greenbelt has a particularly dense population of Russian olive with some locations along the property as dense as 145 trees per acre. Through a grant from the Colorado Water Conservation Board's Invasive Phreatophyte Control Program, MHYC's Land Conservation Program operated a sawyer crew for five weeks to implement large-scale removal of these trees from the property with a goal to completely eradicate the infestation within Bear Creek Greenbelt and improve the riparian and wildlife corridor which exists along Bear Creek.

MHYC Corpsmembers felled trees with chainsaws, limbed and bucked downed trees, and processed all material with a chipper. Once trees were stumped, Corpsmembers serving as applicator technicians applied herbicide to cut stumps using spray bottles under the supervision of a MHYC Qualified Supervisor. MHYC crews successfully removed Russian olive trees from roughly 22 acres of one of the most densely infested areas of the greenbelt.

MHYC Corpsmembers continued this project in 2014 with funding through a Great Outdoors Colorado Youth Corps Grant, treating approximately 400 Russian olive trees along 42 acres of the greenbelt between Wadsworth Boulevard and Estes Street over a six week period. The project continued in 2015 through an ongoing partnership with the City of Denver and the Colorado Water Conservation Board, resulting in an additional seven weeks of work by a MHYC crew and park staff. In 2016, 2019, and 2020, subsequent Great Outdoors Colorado Youth Corps Grants allowed for MHYC crews to continue this important work for an additional 19 weeks. In total, between 2013 and 2020, MHYC Corpsmembers performed 35 weeks of sawyer work along the greenbelt, clearing over 101 acres of invasive Russian olive trees.

City of Thornton Parks and Open Space – Big Dry Creek

MHYC began Phase I of the Big Dry Creek Russian Olive Removal project in partnership with the City of Thornton in 2018 and continued with Phase II in 2019 and Phase III in 2020. The goal of the project is to clear Russian olive trees from approximately 250 acres of Thornton open space, advancing the goals of Thornton's Big Dry Creek Recreation and Floodplain Restoration Master Plan. Thus far MHYC's sawyer crew has treated 160 acres of Russian olive over ten weeks. Treatment includes cutting down trees, applying herbicide to all cut stumps to prevent sprouting, and mulching all removed plant material.

Big Dry Creek is an important natural resource and ecosystem for the region due to the east-west corridor and the opportunities for trail connectivity. The significant acreage cleared of Russian olive by MHYC has already benefited Thornton residents and visitors who use the Big Dry Creek as a place to exercise and view wildlife. The removal of invasive trees, especially in proximity to critical waterways such as Big Dry Creek, will also encourage native vegetation growth, increase biodiversity and improve wildlife

Colorado Water Conservation Board
2022 Mile High Youth Corps Proposal

habitat. The work completed by the MHYC crew has successfully advanced the Big Dry Creek Recreation and Floodplain Restoration Master Plan and highlighted the benefits of Russian olive removal in regional riparian corridors.

What level of staffing will be directed toward the implementation of the proposed project/planning effort? Discuss the number of staff and amount of time dedicated for the project. Will volunteers be utilized, and if so, how? Include brief resumes for each member of the active project team. 10 points

Mile High Youth Corps has the ability to meet both the technical and logistical needs of project partners through organizational capacity, highly trained supervisors, ability to manage projects from planning to wrap-up, and appropriate training and support. MHYC's supervisory experience, training, and overall organizational structure featuring dedicated project coordination and management staff has led to a robust set of standard operating procedures, documentation, and evaluation that provides MHYC staff and Corpsmembers with the tools they need to ensure high quality project outcomes for partners. The Denver Land Conservation Program team includes:

Jesse Roehm, Associate Director: Land Conservation – Jesse is responsible for the supervision and professional development of over 160 staff and AmeriCorps members annually. He oversees the management of grants, budgets and program/project evaluations and supports the development, implementation and continuous improvement of the Land Conservation Program. He joined Mile High Youth Corps in 2011 and served two full terms as an AmeriCorps Leadership and Conservation Corpsmember and Alumni Mentor at MHYC. He was honored as The Corps Network's National Corpsmember of the Year in 2013. Jesse then served as Project Coordinator in Denver from 2013 to 2017 and became manager of the Denver and Colorado Springs sites in July 2017. Jesse earned his B.A. in Sociology and International Studies from Indiana University in 2010.

Claire Morrissy, Regional Manager: Land Conservation Program (Denver) – Claire is responsible for obtaining contracts and maintaining strong relationships with local, state and federal land management agencies. She oversees and provides direct support to Crew Leaders and ensures safe, high quality completion of land projects. Claire has been at MHYC for over 3 years. She previously was a Restoration Project Coordinator at Wildlands Restoration Volunteers, a volunteer stewardship non-profit based in Boulder, Colorado where she coordinated sawyer projects. She also served two 1700-hour AmeriCorps terms as an AmeriCorps Leadership and Conservation Corpsmember and Alumni Mentor. Claire earned her B.A. in Environmental Studies from University of Vermont.

Mile High Youth Corps ensures a minimum of 320 work hours per week using 7-9 Corpsmembers along with one Crew Leader who provides on-site supervision. High Line Canal Conservancy will act as the cooperating project partner, taking the lead on planning and organizing the project while overseeing work provided by MHYC. The Conservancy and the Canal Conservation Corps (CCC) will monitor the success of the control and planting efforts for years to come. The CCC is a dedicated coalition of community members that participate in Conservancy-led stewardship projects across the Canal, including noxious weed removal.

Demonstrate that the project budget and schedule are realistic. Please use the budget/timeline spreadsheet attached to the application. Please note that the start date will take place after funding awards are announced and grants are contracted. 10 points

In 2019, a Mile High Youth Corps chainsaw and pesticide application crew completed a Russian olive removal project along the High Line Canal through a partnership with Denver Water. In one week the crew was able to eradicate Russian olive trees along three miles. They also addressed other downed and dead vegetation. These miles contained some of the denser trees stands within the Canal. With six weeks

of funding, based on previous project accomplishments, it is believed that the crew will be able to clear about 19.2 miles of the canal.

Proposal Effectiveness (50 points)

What information is the project sponsor using to develop the proposed plan or project? Include any relevant information regarding existing watershed plans, stream management plans, geomorphic assessments, flood studies, fire protection plans, riparian conditions assessments, aquatic/terrestrial habitat conditions, wildlife studies, and/or river restoration reports. 10 points

In partnership with the Canal's owner, Denver Water, and the 11 jurisdictions it traverses, the Conservancy led an outreach and planning effort to create "The Plan for the High Line Canal" (the Plan) which is the primary guide for the proposed project. Gathering input from over 5,000 stakeholders from across the region, the planning process identified protecting the Canal's natural character as the number one priority for the community. As the Canal is decommissioned for irrigation delivery, local jurisdictions are embracing the Canal as green stormwater infrastructure, improving water quality while providing a new source of water to preserve the Canal's natural character. The Plan lays out clear guidance for re-purposing the historic Canal, improving the health of people and the environment, and increasing accessibility and enjoyment for generations to come. This initiative will focus on the following projects over the next 18 months:

- stormwater management
- landscape and tree care
- access and signage
- safety and crossing enhancements
- education and stewardship opportunities
- local neighborhood improvements

As the Canal's function transitions, the operations and maintenance paradigm along the Canal is changing significantly, with local jurisdictions taking a more active role in managing the vegetation along the entire width of the corridor. Historically, jurisdictions have maintained only the Canal trail and typically six feet on either side of the trail. This has left Denver Water to maintain the remainder of the 100' corridor, including the ditch and the majority of the vegetation. Denver Water's maintenance has focused on ensuring that irrigation water could move through the channel unimpeded, meaning that natural resource management along the corridor has been minimal.

Discuss the multiple objective aspects of the project and how they relate to each other. Describe similar activities in the watershed and how this project or plan complements but does not duplicate those activities. Multiple objectives may include (but are not limited to) channel stabilization, riparian re-vegetation, habitat improvement, recreation opportunity enhancement, natural hazard reduction, flood mitigation, water supply delivery improvement, fish migration improvement, ephemeral/ intermittent channel stabilization, and upland erosion mitigation. 30 points

The proposed project has three main objectives: data collection, invasive tree removal, and herbicide application. This restoration project will benefit trail users and residents along the Canal by enhancing the ecological health and resiliency of the corridor. Russian olive removal will help ensure the Canal continues to be a refuge for urban wildlife, native plants, and trail users alike. This project will help to advance an understanding of Russian olive control along the 71-mile corridor and provide invaluable data for future control and planting efforts. If the project is not undertaken, Russian olive will continue to spread unchecked along the Canal, taxing limited water resources, threatening existing plant communities, and hindering efforts to plant new trees. With so many stakeholders involved and such a

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2022 Mile High Youth Corps Proposal

large number of Russian olive present, now is the time to begin monitoring, controlling, and replacing Russian olive on the High Line Canal.

Data Collection: The most recent data on the Canal's Russian olive population was collected in 2016, when the Conservancy, in partnership with Denver Water and the jurisdictions along the Canal, completed an inventory of trees on the corridor greater than 6'' in diameter. It is important that a new Russian olive inventory along the corridor is initiated so that the Conservancy and its jurisdictional partners can establish an accurate baseline of Russian olive infestation before control efforts begin. The new data will also provide insight into the extent to which Russian olive has proliferated along the corridor since the 2016 inventory, which will inform future removal projects. Data collected by Corpsmembers will include GPS location and diameter at breast height for all Russian olive along the project corridor, including those less than 6'' in diameter.

Invasive Tree Removal: The 2016 inventory found Greenwood Village to have the highest concentration of 6'' or greater Russian olive along the Canal, both in terms of percentage of canopy (4.7%) and trees per mile (20). These numbers represent only a portion of the Russian olive currently infesting the corridor, as trees and shrubs under 6'' diameter were not recorded in the 2016 inventory. The Colorado Department of Agriculture (CDA) characterizes Russian olive as a species which taxes water reserves, disrupts plant succession, and interferes with nutrient cycling patterns. Colorado Parks and Wildlife (CPW) notes that Russian olive is projected to displace native plains cottonwoods as a climax species. MHYC Corpsmembers will remove all Russian olives identified along the 19.2 mile project area.

Herbicide Application: Chemical treatment will be applied immediately after cutting, using either Triclopyr or Glyphosate, providing an immediate impact of lowered propagule pressure. Russian olive root suckers and volunteer saplings will be added to the inventory created by MHYC and continuously controlled during CCC stewardship events. This approach will mitigate the threat posed by upstream Russian olive populations by promptly addressing new growth within the treated reach. MHYC maintains a Commercial Applicator License through the Colorado Department of Agriculture. Trained applicators will be supervised under a Qualified Supervisor.

Describe the proposed monitoring or implementation plan. How will the project or plan measure success of its objectives? 10 points

Project success will be measured by the quality and range of data collected, number of Russian olives cut, amount of chemical applied, and number of educational hours earned. Mile High Youth Corps tracks data related to project accomplishments, herbicide application, Corpsmember hours and education and contributes to quarterly and annual reporting.

Budget & Timeline Table

Task	Description	Target Start Date	Target Completion Date	CWCB Funds	Other Funding Cash*	Other Funding In-Kind*	Total
1	MHYC Chainsaw and Pesticide Application Crew (Six weeks, 320 hours/week)	05/01/2022	12/31/2022	31,350	31,350		62,700
2							
3							
4							
5							
6							
7							
	TOTALS			31,350	31,350		62,700

Scope of Work

GRANTEE and FISCAL AGENT (if different) PRIMARY CONTACT: Claire Morrissy

ADDRESS: 1801 Federal Boulevard, Denver, CO 80204

PHONE: 303-433-1206 Ext. 229

PROJECT NAME: High Line Canal Russian Olive Control and Restoration

GRANT AMOUNT: \$31,350

INTRODUCTION AND BACKGROUND

Provide a brief description of the project. (Please limit to half a page)

Mile High Youth Corps (MHYC) will partner with the High Line Canal Conservancy (the Conservancy) to begin the process of restoring 19.2 miles of the High Line Canal by mapping, inventorying, and removing invasive Russian olive from the corridor. As the Canal is decommissioned for irrigation delivery, the corridor's canopy is increasingly threatened by invasive trees which tax water resources and outcompete native and desired vegetation. The control of Russian olive is essential to protecting the Canal's plant community. If allowed to continue to spread along the corridor unchecked, established trees and new plantings will struggle to compete with Russian olive for increasingly limited water resources. This project will target Russian olive trees along the Canal in Denver, Centennial, Greenwood Village, and Unincorporated Arapahoe County to increase the presence of native vegetation and improve overall biodiversity. Through data collection, invasive tree removal, and herbicide application, this six-week project will initiate a holistic approach to protecting and restoring the Canal's canopy. High Line Canal Conservancy will provide a cash match which will fund three of the six weeks of MHYC chainsaw crew work.

OBJECTIVES

Objective 1: Collect data on density of Russian olive trees along 19.2 miles of the High Line Canal.

Objective 2: Cut and dispose of standing Russian olive trees along 19.2 miles of the High Line Canal.

Objective 3: Treat all cut Russian olive stumps with herbicide to prevent regrowth.

Objective 4: Provide natural resource education focused on leadership development, civic engagement, environmental education, and career and college preparation to nine MHYC Corpsmembers each week.

TASKS

TASK 1 – Map, cut, and treat Russian olive trees along the High Line Canal to increase the presence of native vegetation and improve overall biodiversity.

Description of Task

MHYC Corpsmembers will map and remove Russian olive from 19.2 miles of the Canal running through Denver, Centennial, Greenwood Village, and Unincorporated Arapahoe County. Corpsmembers will use ESRI field mapping applications, including Collector, to collect baseline data about Russian olive, providing a valuable skill building opportunity for the youth. After mapping, Russian olive will be controlled via cutting and herbicide treatment. Chemical treatment will be applied immediately after cutting, using either Triclopyr or Glyphosate.

Method/Procedure

Working in pairs, trained Corpsmembers will document Russian olive density along the project corridor, collecting GPS location and diameter at breast height for all Russian olive including those less than 6'' in diameter. Corpsmembers will then cut standing Russian olive trees along the Canal. Large trees will be cut with chainsaws while shrubs will be cut with brush-cutters or hand tools. The Conservancy's integrated weed management plan for Russian olives offers the most effective combination of control efforts through the "cut stump" treatment method which focuses on the destruction of the root system. The trunk will be cut as close to the ground as possible and the herbicide solution will be applied to the cut surface using low volume sprayers. The cut surface will be horizontal to the ground to minimize runoff, and any residual sawdust will be removed from the tree using a handheld blower prior to herbicide application. Cut surfaces of plants with less than a 4-inch diameter will be thoroughly wetted with herbicide to kill the roots. If the diameter of the Russian olive stump exceeds four inches, the herbicide will be applied to the cambial layer just inside the bark ring. An indicator dye will be added to the spray mixture to show prior treatment of stumps during future restoration efforts. All downed Russian olive trees will be chipped and disposed of by MHYC Corpsmembers following acceptable practices.

Deliverable

Number of Russian olive trees removed along 19.2 miles of the High Line Canal.

TASK 2 – Provide MHYC Corpsmembers with 4 hours per week of natural resources education in the field.

Description of Task

High Line Canal Conservancy staff will facilitate a total of 24 hours of education to MHYC Corpsmembers on a variety of natural resources and land management topics.

Method/Procedure

Conservancy staff will coordinate with the Mile High Youth Corps Crew Leader to schedule daily educational talks and interactive activities. Corpsmembers will receive four hours per week of education to satisfy MHYC's commitment to Corpsmember development and engaging Corpsmembers in an educational curriculum focused on leadership development, civic engagement, environmental education, and career and college preparation.

Deliverable

Hours of education received by Corpsmembers.

REPORTING AND FINAL DELIVERABLE

Reporting: MHYC shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, MHYC shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

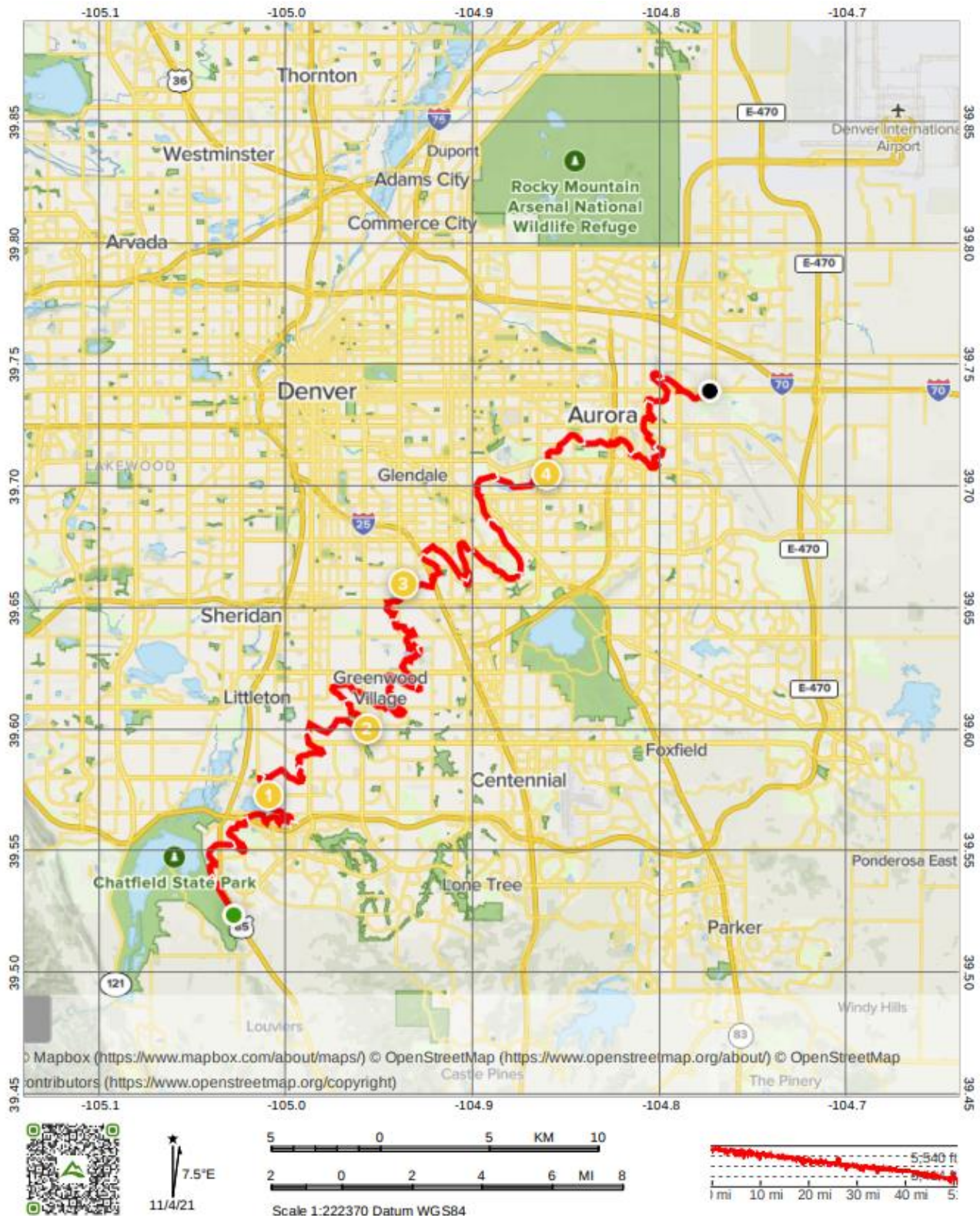


CWCB COLORADO WATERSHED RESTORATION PROGRAM GRANT APPLICATION

High Line Canal Russian Olive Control and Restoration

High Line Canal Map

Source: AllTrails 2021





CWCB COLORADO WATERSHED RESTORATION PROGRAM GRANT APPLICATION

High Line Canal Russian Olive Control and Restoration

Project Area Map – Denver and Arapahoe Counties

Source: High Line Canal Conservancy

