



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT 2007-2008 GRANT APPLICATION FORM

Central South Platte Wetland Partnership
South Platte River, Colorado

Name of Water Activity/Project

River Basin Location

\$150,000.00

Amount of Funds Requested

☒

Basin Account

☐

Yes

☐

Statewide Account

☒

No

Please Check Applicable Box

Approval Letter Signed By
Roundtable Chair and
Description of Results of
Evaluation and Approval
Process

*** For the Basin Account, the Application Deadline is 60 Days Prior to the Bimonthly CWCB meeting. The CWCB meetings are posted at www.cwcb.state.co.us and are generally the third week of the month.**

*** For the Statewide Account, the Application Deadline is 60 Days Prior to the March and September CWCB Board Meetings.**

* In completing the application you may attach additional sheets if the form does not provide adequate space. If additional sheets are attached please be sure to reference the section number of the application that you are addressing (i.e., A.1. etc.).

Instructions: This application form must be submitted in electronic format (Microsoft Word or Original PDF are preferred). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Water Supply Reserve Account Criteria and Guidelines can be found at <http://cwcb.state.co.us/TWMD/>. The criteria and guidelines should be reviewed and followed when completing this application. You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Rick Brown of the Intrastate Water Management and Development (Colorado Water Conservation Board) for assistance, at (303) 866-3514 or email Rick at rick.brown@state.co.us. Generally, the applicant is also the prospective owner and sponsor of the proposed water activity. If this is not the case, contact the Rick Brown before completing this application.

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Part A. - Description of the Applicant (Project Sponsor or Owner);

1.	Applicant Name(s):	Ducks Unlimited, Inc.		
	Mailing address:	Great Plains Regional Office 2525 River Road Bismarck, North Dakota 58503		
	Taxpayer ID#:	FIN 13-5643799	Email address:	mreddy@ducks.org
	Phone Numbers: Business:	970.381.2876		
	Home:	970.672.4970		
	Fax:	303.484.5543		

2. Person to contact regarding this application if different from above:

Name:	Matthew A. Reddy
Position/Title	Regional Biologist

3. Provide a brief description of your organization below: see "Description of Applicant" in Part 2 of Criteria and Guidance for required information.

Ducks Unlimited, Inc. (DU) is a private not for profit (501(c)3) organization whose mission is to "conserve, restore and manage wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people." Established in 1937, DU was founded by a group of men who realized the climatic impact of the "Dust Bowl" was having a devastating effect on waterfowl populations. They set about to form an organization which has become the preeminent conservator of North American wetland habitats. Wetlands are one of the most dynamic natural systems on earth, providing flood irrigation, recharge of aquifers, contaminant removal, wildlife habitat, and they provide the basis for the livelihoods and recreation of millions of people. Over our 70 year history, DU has conserved more than 11 million acres of wetlands and associated habitats. DU is a science-based organization and it pursues its mission continent-wide, focusing

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on priority areas with the biggest impact on North American waterfowl populations.

In Colorado, DU has worked with several organizations focused on both wildlife conservation and water resources conservation. Since 1997, we have conserved, restored and managed nearly 71,000 acres of wetlands and associated habitats in Colorado, including 16,000 acres in the South Platte River watershed (SPR). To deliver wetland conservation projects in the state, DU maintains a staff including a full-time program manager, a regional biologist, a certified engineer, a construction manager and a regional director of grassroots membership. We also maintain a registered membership of over 10,000 members in the state of Colorado.

The SPR is DU's priority watershed in Colorado. Diverse habitats and geographic isolation from other large western rivers attracts millions of waterfowl and migratory birds each year. The Rocky Mountain Bird Observatory (RMBO) estimates that 74% of all bird species in Colorado are found on the SPR sometime during each year. However, the SPR is losing its diverse habitat and natural features due to impacts on water resources caused by human diversions. Changes in the natural flood regimen such as overbank flooding, scouring, and flushing flows have reduced the number of seasonal wetlands, warm-water sloughs, and sandbars. These habitats have been further reduced by agricultural practices and municipal and industrial enterprises.

River augmentation via wetland recharge has become a viable technology for restoring and creating seasonal wetland habitats. Water applied directly to the recharge basin provides migration and wintering habitat, but return flows through the alluvial aquifer augment flows to warm-water sloughs, raise groundwater tables to supply seasonal wetlands and supplement flows in the river channel, the latter of which is the main goal of river augmentation projects. Recent studies conducted by the RMBO and Colorado Division of Wildlife (CDOW) demonstrate that recharge wetlands are important to migratory and wintering birds on the SPR, as more than 20 species of migratory birds and 27 species of waterfowl use these habitats.

Most recharge projects are conceived to provide substitute water supplies for agricultural, municipal and industrial enterprises. Recharge projects retime peak flows in the river so that additional water returns to the river when natural flows are insufficient to satisfy water rights. DU has fostered an innovative partnership between these traditional consumptive water users and the wildlife community to realize the waterfowl conservation benefits of these recharge projects. We have worked with the Lower South Platte Water Conservancy District, Northern Colorado Water Conservancy District, South Platte Lower River Group, and the South Platte Water Related Activities Program as well as wildlife conservation groups like the United States Fish and Wildlife Service, the CDOW, Colorado Open Lands

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and the South Platte Wetlands Focus Area Committee. Currently, with the support of the South Platte Roundtable and the Colorado Water Conservation Board, we are delivering multi-million dollar projects in Logan, Morgan and Sedgwick Counties realizing the dual benefits of wetland recharge projects.

This application is made by DU on behalf of a similar partnership newly formed to realize the manifold benefits of recharge wetlands in the stretch of the SPR basin encompassed by Weld and Morgan Counties, Colorado. Working primarily with Central Colorado Water Conservancy District (CCWCD), the United States Fish and Wildlife Service (USFWS), The United States Department of Agriculture (USDA) and private landowners in the area, we have identified three wetland augmentation project sites that will provide both quality wetland habitat for waterfowl and other wildlife species and strong river augmentation sources. Delivery of recharge wetlands on these sites will help multiple federal, state, regional and private organizations realize the wildlife and water conservation goals that have been identified in their strategic planning documents.

The following project narratives summarize the conservation benefits to be gained by the Central South Platte Wetland Partnership (CSPWP) funded by this application:

WELKER AUGMENTATION PROJECT

The Welker Augmentation Project is an expansion of CCWCD's existing augmentation project located two miles west of Goodrich on the SPR in Morgan County, CO (See Exhibit C). This project is an expansion of Central's existing "Orchard Aquifer Banking Project", where five alluvial wells provide water to three ponds during free river conditions or when Central's GMS or WAS plans have excess supply in any given month. The project site is an abandoned field of gently rolling sandhills adjacent to existing recharge ponds built by CCWCD in the past couple of years. The property encompasses approximately 160 acres in the SE1/4 of Section 12, Range 4 North, Township 61 West of the 6th Principal Meridian. The property is owned by Dry Lakes Ranch and will be managed for alluvial recharge, wetland habitat, and waterfowl hunting recreation. Development of shallow-water wetlands on this site will put the land back into use and will expand Central's ability to offset the out-of-priority depletions of its members. These wetlands will provide high-quality habitats for migrating ducks and geese. Three to four recharge basins will be constructed in the natural swales formed by the topography of the site. Water will be pumped from existing infrastructure into the newly developed basins forming shallow-water wetlands of approximately 20 surface acres each.

This project will be funded by CCWCD, DU and Dry Lakes Ranch. This is the highest priority project identified by CCWCD in the partnership.

HAREN WETLAND DEVELOPMENT

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The Haren Wetland Development will be situated on a piece of property located 2.5 miles northwest of Gilcrest in Weld County, Colorado. The property encompasses approximately 140 acres of Section 16, Township 4 North, Range 66 West in the 6th Principal Meridian (See Exhibit D.1). The property is currently a reseeded pasture and is without water after a transfer of water rights a few years ago. The tract is privately owned by Mr. Thomas Haren, who is interested in the dual benefits provided by recharge wetlands – wildlife habitat and augmentation credits. Mr. Haren has expressed interest in developing both wetland and upland habitat on the acres and this project will be a first step in accomplishing that goal. The Haren property immediately abuts the Chestnut Slough, one of the most important wintering waterfowl sites in the central SPR of Colorado. Additional wetlands in the area will provide a great deal of flexibility to duck and goose populations utilizing the area in the winter months. The properties situation next to the Western Ditch will allow the development of a large recharge wetland complex. Because of their relative rarity in southern Weld County, CCWCD actively seeks sites that will allow large developments because of their efficiency in producing credits. This project is a high priority for both DU and the CCWCD. This project will create three to four wetland recharge basins on the property to be filled with water diverted from the Western Ditch. Approximately 60 acres of wetland habitat will be developed under this plan to be flooded during the critical wintering and migration seasons.

PECKHAM AUGMENTATION SITE

The Peckham Augmentation site sits on 20 acres of pivot corner and agland a couple miles east and south of Peckham in Weld County, Colorado (See Exhibit E.1). The site is owned by two landowners, Mr. Martinson and Mr. Brown. Currently the land is used as un-irrigated cropland. The project site sits equidistant between the SPR and Beebe Draw, a locally important wetland complex preferred by waterfowl. Its adjacency to many cropfields and remnant depressional wetlands lends greater habitat value to the wetlands than is immediately apparent by its location on the boundary of multiple center pivots. The Peckham site is attractive to CCWCD due to its distance from the riverbottom. Recharge credits derived from this project location provide a lot of 'deep' coverage as a single years addition fan out across multiple years of depletions (See Exhibit C.2). Through the installation of several low-level terraces and appropriate water-control structures, we will take advantage of existing water pipeline to flood approximately 15 acres of recharge wetland.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

NOT APPLICABLE

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Part B. - Description of the Water Activity – Please Refer to Criteria and Guidance Document for Eligibly Requirements

1. Name of water activity/project:

Central South Platte Wetland Partnership

What is the purpose of this grant application?

☒

Environmental compliance and feasibility study

☐

Technical Assistance regarding permitting, feasibility studies, and environmental compliance

☐

Studies or analysis of structural, nonstructural, consumptive, nonconsumptive water needs, projects

Study or Analysis of:

☐

Structural project or activity

☐

Nonstructural project or activity

☐

Consumptive project or activity

☐

Nonconsumptive project or activity

☒

Structural and/ or nonstructural water project or activity

2. Describe how the water activity meets these **Threshold Criteria**.

1. The water activity meets the eligibility requirements outlined in Part 2 of the Criteria and Guidelines.

The CSPWP meets the eligibility requirements as presented in Part 2 of the WSRA Criteria and Guidelines. As a private, not for profit 501(c)3 corporation, DU is eligible for SB-179 grant funds. The WSRA

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funds provided under this application will be directed towards permitting, feasibility, and environmental compliance as well as direct capital expenditures on structural improvements necessary for the construction of several recharge wetlands.

2. The water activity is consistent with Section 37-75-102 Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

All partners in the CSPWP affirm the prior appropriation doctrine and water rights adjudication system as presented in C.R.S. 37-75-102. Water for the wetland recharge basins has been or soon will be legally secured by the CCWCD or private landowners. All project transactions are subject to the Constitution, Statutes and regulations of the State of Colorado.

3. The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRT's evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

The application was unanimously approved by the South Platte Basin Roundtable at their November 11th, 2008 meeting.

4. The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

Both the Statewide Water Supply Initiative (SWSI) Phase I and SWSI Phase II reports highlight the threat posed by a paucity of water supplies in the SPR basin as populations along the Front Range increase in the coming decades. Increased frequency and duration of river calls as well as the transfer of water from agricultural and environmental beneficial uses will impact the ecology and the economy of the basin. Materials derived from these efforts point to the effectiveness of recharge wetlands in narrowing the estimated 90,000 AFY gap in the SPR basin.

This negative aspects of increased water use on water-dependant communities (be they ecological or agricultural) can be mitigated to a degree by developing well-situated augmentation sites that provide both consumptive and nonconsumptive benefits. Agriculture, wildlife, recreation and, even, municipal water users will benefit from this effort.

The effectiveness of this strategy has been vetted by numerous stakeholders throughout the SPR basin. Analysis, comment, and support

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of these water conservation efforts have been sought by DU at the South Platte Wetlands Focus Area Committee, the SPBRT, and before the Projects board of the CCWCD. These venues provide a broad range of interests, viewpoints and expertise. We have been favorably received by all of them and will continue to seek their input as projects are delivered.

3. For Applications that include a request for funds from the Statewide Account, describe how the water activity meets the **Evaluation Criteria**. See Part 3 of Criteria and Guidelines.

NOT APPLICABLE

4. Please provide an overview of the water project or activity to be funded including – type of activity, statement of what the activity is intended to accomplish, the need for the activity, the problems and opportunities to be addressed, expectations of the participants, why the activity is important, the service area or geographic location, and any relevant issues etc. Please include any relevant TABOR issues that may affect the Contracting Entity. Please refer to Part 2 of Criteria and Guidance document for additional detail on information to include.

The CSPWP focuses on delivering high-quality recharge wetlands in the SPR basin of Weld and Morgan Counties. Recharge projects as part of a program to augment SPR flows through the alluvial aquifer have become a widely accepted and dependable technique for meeting the demands of water users along the river. In fact, similar partnerships have become the standard for recharge projects with wildlife and wetlands funds invested in a large number of recharge projects on the Platte. Members of the partnership will provide direct diversion rights designated specifically for recharge to meet a variety of beneficial uses corresponding to the objectives and recommendations identified in both SWSI Phase I and SWSI Phase II.

Water has been diverted from the SPR for beneficial use since settlement in Colorado more than a century ago. Surface rights were developed and applied under the Doctrine of Prior Appropriation. However, as technology advanced and water demands grew with the state's population, new systems for water storage and diversion were employed.

This has resulted in a general over-appropriation of the water resources in the basin for irrigation and other summer-time uses. Over the last 40 years, a river augmentation program that retimes river flows from times of excess to times of shortage has developed and become an important tool for addressing water shortages in the river.

River augmentation is a complicated system that utilizes wetland recharge functions to retime water flows and inundate the alluvial aquifer. By diverting water from the river during spring freshets or winter runs when recharge rights or free river water is available, the excess water can be moved to recharge basins located off stream. The recharge basins allow water to infiltrate the alluvial aquifer, where it will slowly return underground to the river channel. Return times

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have been modeled and are updated to ensure that recharge water meets the standards required by the state administration of surface waters. By operating in this fashion, less senior water rights can operate out of priority without causing injury to senior water right holders. River management under this system has permitted several junior water rights holders to continue to operate in a legal manner. Without river augmentation municipal, industrial, and agricultural operations would have their water-based operations severely curtailed.

Recharge projects are expensive undertakings. DU and our partners have come to understand the great benefits that recharge wetlands may provide to migrating and wintering waterfowl populations. Recent scientific studies have documented the diversity and abundance of bird life that utilize these impoundments in the spring, fall and winter. Recent studies conducted by RMBO and CDOW confirm the value of these projects for wetland birds. Winter surveys of sites in the project area conducted by CDOW indicate that some of the first recharge projects regularly hosted 10,000-16,000 waterfowl daily. Spring surveys conducted by RMBO indicate that over 10,000 waterfowl and nearly 6,000 shorebirds use shallow-water wetlands with recharge hydroperiods. Even more compelling is that over 20 species of waterfowl and 27 species of shorebirds were observed. This sort of species richness speaks to the utility of these habitats.

Although a few enterprises and landowners have built augmentation projects on their own, many have partnered with wildlife interests to complete the projects. This partnering is critical if we are to meet the demands of the 8,900 acre foot M&I gap to be addressed by recharge wetlands, not to mention the 10,000 acre foot needed to supply Colorado's contribution to the Platte River Recovery Program. This application represents a series of projects chosen because they evince the highest opportunity for partnering amongst traditional water users and wildlife interests. We feel that successful delivery of these projects will demonstrate the power of collaboration and the ability for nontraditional partnerships to meet the goals and objectives of the SWSI, the basin roundtables, and the intent of HB1137.

WELKER AUGMENTATION PROJECT

The Welker Augmentation Project represents an expansion of one of CCWCD's largest recharge complexes. An additional 60-80 acres of recharge wetland will be created by installing water delivery components and moving dirt in naturally-occurring swales on the Dry Lakes Ranch property immediately north of the existing recharge ponds.

DU is partnering with CCWCD and Dry Lakes Ranch to achieve project objectives. DU will provide \$56,231 to the effort to pay for project survey, design and construction. CCWCD and Dry Lakes Ranch will provide and additional \$100,000 and \$50,000 respectively to pay for project infrastructure. See Exhibit A.1 for project concept. See Exhibit A.2 for a chart illustrating the estimated distribution of accretions arising from a single year of diversion into the Welker

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augmentation wetlands.

The shallow water wetlands flooded by this project will provide additional, high quality habitat to migrating and wintering birds using the Golden Triangle. The Golden Triangle is a long-recognized region of the SPR Basin bounded by the Little Bijou, Jackson, Empire and Riverside reservoirs and bisected by the SPR. This is a regionally important migratory stopover point for waterfowl and is used by hundreds of thousands of birds annually. While plenty of deep-water habitats and aglands provide a portion of the life cycle needs of these birds, the region is relatively poor in shallow water wetlands whose seeds and invertebrates provide critical nutrients to pre-breeding birds. This is especially true for Northern Pintail, a waterfowl species of continental concern and a SGCN in Colorado (see attachment E). Migrating pintails utilize spring recharge wetlands and the food resources provided therein send them to their prairie breeding grounds in good health. This is crucial if we are to achieve pintail population objectives.

HAREN WETLAND DEVELOPMENT

The Haren Wetland Development is a large-scale wetland recharge project located near the SPR in southern Weld County. Approximately 60 acres of recharge wetlands will be created on de-watered agland to generate recharge credit for CCWCD's plan and to provide high-quality waterfowl habitat. Recharge basins will be created by constructing contour terraces in portions of the property served by water delivery from the Western Ditch. These basins will be designed such that average maximum depth does not exceed 24"-36". DU has secured \$87,577 to pay for project survey, design and construction. CCWCD will provide an additional \$200,000 to pay for the diversion out of the Western Ditch and to further fund project construction. The landowner, Mr. Haren, has pledged nearly \$5,000 in inkind services from his agricultural engineering company. We request \$37,537 from the statewide WSRA to fully fund this project. Because of its large size and location adjacent to excellent wetland habitats of the SPR, this project is a high priority project for both the traditional and nontraditional water users in the partnership. See Exhibit B.1 for project concept. See Exhibit B.2 for a chart illustrating the estimated distribution of accretions arising from a single year of diversion into the Haren Wetland Development.

As intensive and efficient agricultural practices overtook most of the non-urban lands associated with the SPR corridor in southern Weld County, the amount of suitable wetland habitat in that area has diminished. Further, recent water transfers and dry-up of aglands has continued to hasten wetland loss. The wetlands provided by this project will help reverse that trend. They are especially important as they provide a shallow-water component to the Chestnut Slough wetland complex. This slough is an important wintering site for thousands of ducks and geese in the region. The Haren site sits immediately

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adjacent to and above Chestnut Slough. Recharge from the wetland development will positively impact water regimes in Chestnut Slough, increasing its utility to wintering birds. It will also provide a degree of habitat heterogeneity missing in this portion of the SPR. Wildlife benefits gained from this project include positive habitat gains for waterfowl, shorebirds, Neotropical migrants, amphibians and, to native fish of the SPR basin.

PECKHAM AUGMENTATION SITE

The Peckham Augmentation Site is an important recharge project located 2 miles south and east of Peckham in Weld County, Colorado. Approximately 15 acres of recharge wetlands will be created through the application of low-level terraces to two properties on the boundary of irrigated aglands. Existing irrigation infrastructure will be expanded to allow the flooding of these impoundments with water from the Platte Valley Irrigation Company (PVIC) ditch. DU is asking for \$43,117 of WSRA funds to match the \$65,877 secured to pay for project survey, design and construction. CCWCD will provide additional funds to pay for off-site water delivery and to pay for annual access agreements (a value not reflected in attached budgets). See Exhibit C.1 for project concept. See Exhibit C.2 for a chart illustrating the distribution of accretions arising from a single year of diversion into the Peckham Augmentation site.

The value of this site to waterfowl rests in its location amidst the croplands of southern Weld County and in its position between the SPR and Beebe Draw (a locally important wetland complex). The Peckham Augmentation Site rests in a prime spot to service ducks and geese traversing those wetland corridors. Abundant waste grains provide carbohydrates to migrating and wintering waterfowl populations. This project will provide a shallow-water component right in the middle of these food resources. Additionally, this wetland project will offset some of the depressional wetland losses that this part of Weld County has seen as the efficiencies of intensive agriculture have lessened the amount of tailwater and seep arriving in natural wetland basins. Basins of this sort also provide high quality habitat to migrating shorebirds and wading birds. They function much the same as playa basins in this respect, by providing wetlands that flood and drain rapidly. This wetland types have particular invertebrate communities that are crucial to maintaining body condition in some of our longest-distance migrants.

5. Please summarize the proposed scope of work. Please refer to Part 2 of the Criteria and Guidance document for detailed requirements. On the following page there is an example format for the Scope of Work. You can use the example format or your own format, provided that comparable information is included.

The scope of work should outline by task how the water activity will be accomplished. It is important that

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the scope of work detail the specific steps, activities/procedures that will be followed to accomplish the water activity and the specific products/deliverables that will be accomplished. The scope of work should include but not be limited to: task description, key personnel, budget, schedule and deliverables and the final report/project documentation upon completion of the water activity.

WELKER AUGMENTATION PROJECT

TASK 1: Project survey and design

Description of task -

The production of a project plan outlining the necessary land and water improvements for proper project function.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

DU or its agent will conduct a survey of the project area. A topographic map will be developed from the survey using standard models and AutoCAD software programs. This topographic map will place 6" to 12" contours in order to estimate microtopography and land fall in the project area. DU's engineers will work with CCWCD and Dry Lakes Ranch to develop a detailed project design, including schematics of wetland impoundments, water level control structures, water delivery infrastructure, and the proper placement of pumps and pipeline.

Description of the major deliverables/products that will be produced upon successful completion of the task -

WE1. DU will deliver a detailed survey package designing a series of wetland recharge ponds on the Welker Tract of Dry Lakes Ranch. This package will include all appurtenant water delivery infrastructure.

WE2. DU will provide a detailed bid package for the Welker Augmentation Project; including all plans, specifications and quantities for labor, materials and equipment.

TASK 2: Phase I - Recharge wetland construction

Description of task -

Construction of recharge wetland located on the southern portion of the Welker Tract of Dry Lakes Ranch. This entails the excavation, movement, and placement of earthen fill such that wetland impoundments follow the natural fall of the land. It also includes the installation of necessary pipelines and water control structures to meet project objectives. This is the first of two project construction phases and will be managed jointly by CCWCD and Dry Lakes Ranch.

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Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

CCWCD and Dry Lakes Ranch will oversee construction of one approximately 20 acre recharge wetland immediately north of existing recharge basins found on the Smith Tract. This will include some earth moving. Water will be delivered to the site through a patch-in to existing pipeline.

Description of the major deliverables/products that will be produced upon successful completion of the task -

WE3. CCWCD and Dry Lakes Ranch will complete construction of a single recharge wetland of nearly 20 acres and appurtenant water delivery infrastructure such that augmentation credits can be generated and wildlife habitat is improved.

TASK 3: Phase II - Recharge wetland construction

Description of task -

Construction of recharge wetland through the excavation, movement, and placement of earthen fill such that wetland impoundments optimize water infiltration and shallow-water habitats. Installation of pumps, pipelines, water control structures and measurement devices necessary to meet project objectives. This is the second of two phases delivering recharge wetlands on the Welker Tract of Dry Lakes Ranch. Construction of these wetlands will be managed by DU.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

DU in association with CCWCD and Dry Lakes Ranch will oversee construction of all land and water improvements necessary to flood two to three 20-acre recharge wetlands on the Welker Tract of Dry Lakes Ranch. This includes the construction of embankments, running pipeline from a booster pump situated between existing and new recharge wetlands and the installation of appropriate water measurement devices.

Description of the major deliverables/products that will be produced upon successful completion of the task -

WE4. DU will complete construction of a series of two to three 20-acre recharge wetlands and appurtenant water delivery infrastructure such that augmentation credits can be generated and wildlife habitats are improved.

PERSONNEL

Dry Lakes Ranch:

Mr. Rick Sandquist, Manager
Mr. Pete Coors, Owner

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Ducks Unlimited, Inc.:

Mr. Greg Kernohan,	Conservation Programs Manager
Mr. Matthew Reddy,	Regional Biologist
Mr. Richard Vail,	Professional Engineer
Mr. Seth Gustin,	Construction Manager

Central Colorado Water Conservancy District:

Mr. Randy Ray,	Operations Manager
Mr. Tom Cech,	Director

WELKER AUGMENTATION PROJECT BUDGET – SEE EXHIBIT A

SCHEDULE

	2008				2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1						X---	----	----	---X			
Task 2						X---	----	---X				
Task 3								X---	----	---X		

HAREN WETLAND DEVELOPMENT

TASK 1: Project survey and design

Description of task –

The production of a project plan outlining the necessary land and water improvements for proper project function.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task –

DU or its agent will conduct a survey of the project area. A topographic map will be developed from the survey using standard models and AutoCAD software programs. This topographic map will place 6" to 12" contours in order to estimate microtopography and land fall in the project area. DU's engineers will work with CCWCD and Mr. Haren to develop a detailed project design, including schematics of wetland impoundments, water level control structures, water delivery infrastructure, and the proper placement of diversions and ditches.

Description of the major deliverables/products that will be produced upon successful completion of the task –

HA1. DU will deliver a detailed survey package designing a series of wetland recharge ponds on the Haren property. This package will include all appurtenant water delivery infrastructure.

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HA2. DU will provide a detailed bid package for the Haren Wetland Development; including all plans, specifications and quantities for labor, materials and equipment.

TASK 2: Western Ditch diversion structure and water delivery

Description of task -

The design and installation of a high-capacity water diversion in the Western Ditch such that rapid water delivery into recharge wetlands is ensured.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

CCWCD will design and construct the Western Ditch diversion

Description of the major deliverables/products that will be produced upon successful completion of the task -

HA3: CCWCD, in association with DU and Mr. Haren, will construct a high-capacity headgate capable of diverting at least 40 cfs of ditch flow into the recharge wetland on the Haren site.

TASK 3: Recharge wetland construction

Description of task -

Construction of recharge wetland through the excavation, movement, and placement of earthen fill such that wetland impoundments optimize water infiltration and shallow-water habitats. Installation of pumps, pipelines, water control structures and measurement devices necessary to meet project objectives. This task will be initiated by CCWCD with technical assistance by DU. Project completion will be managed by DU.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

DU in association with CCWCD and Mr. Haren will oversee construction of all land and water improvements necessary to flood three to four 20 acre recharge wetlands on the Haren property. This includes the construction of embankments, running feeder ditches to new recharge wetlands and the installation of appropriate water measurement devices.

Description of the major deliverables/products that will be produced upon successful completion of the task -

HA4. DU will complete construction of a series of three to four 20 acre recharge wetlands and appurtenant water delivery infrastructure such that augmentation credits can be generated and wildlife habitats are improved.

PERSONNEL

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Haren Property:

Mr. Thomas Haren, Owner

Ducks Unlimited, Inc.:

Mr. Greg Kernohan, Conservation Programs Manager
Mr. Matthew Reddy, Regional Biologist
Mr. Richard Vail, Professional Engineer
Mr. Seth Gustin, Construction Manager

Central Colorado Water Conservancy District:

Mr. Randy Ray, Operations Manager
Mr. Tom Cech, Director

HAREN WETLAND DEVELOPMENT BUDGET - SEE EXHIBIT A

SCHEDULE

	2008				2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1						X---	----	----	---X			
Task 2						X---	---X					
Task 3								X---	----	---X		

PECKHAM AUGMENTATION SITE

TASK 1: Project survey and design

Description of task -

The production of a project plan outlining the necessary land and water improvements for proper project function.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

DU or its agent will conduct a survey of the project area. A topographic map will be developed from the survey using standard models and AutoCAD software programs. This topographic map will place 6" to 12" contours in order to estimate microtopography and land fall in the project area. DU's engineers will work with CCWCD, Mr. Martinson and Mr. Brown to develop a detailed project design, including schematics of wetland impoundments, water level control structures, water delivery infrastructure, and the proper placement of water control structures and ditches.

Description of the major deliverables/products that will be produced upon successful completion of the task -

PE1. DU will deliver a detailed survey package designing a series

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of wetland recharge ponds on the Brown and Martinson properties. This package will include all appurtenant water delivery infrastructure.

PE2. DU will provide a detailed bid package for the Welker Augmentation Project; including all plans, specifications and quantities for labor, materials and equipment.

TASK 2: Recharge wetland construction

Description of task -

Construction of recharge wetland through the excavation, movement, and placement of earthen fill such that wetland impoundments optimize water infiltration and shallow-water habitats. Installation of pumps, pipelines, water control structures and measurement devices necessary to meet project objectives.

Method or procedure that will be used or followed to accomplish the task and identify who will undertake the task -

DU in association with CCWCD will oversee construction of all land and water improvements necessary to flood a series of one to three acre recharge wetlands on the two properties. This includes the construction of embankments, installing new pipeline from existing irrigation infrastructure to new recharge wetlands and the installation of appropriate water measurement devices.

Description of the major deliverables/products that will be produced upon successful completion of the task -

PE3. DU will complete construction of six to eight 1-3 acre recharge wetlands and appurtenant water delivery infrastructure such that augmentation credits can be generated and wildlife habitats are improved.

PERSONNEL

Brown Property:

Mr. Bill Brown, Owner

Martinson Property:

Mr. Myron Martinson, Owner

Ducks Unlimited, Inc.:

Mr. Greg Kernohan, Conservation Programs Manager
Mr. Matthew Reddy, Regional Biologist
Mr. Richard Vail, Professional Engineer
Mr. Seth Gustin, Construction Manager

Central Colorado Water Conservancy District:

Mr. Randy Ray, Operations Manager
Mr. Tom Cech, Director

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PECKHAM AUGMENTATION PROJECT BUDGET – SEE EXHIBIT A

SCHEDULE

	2008				2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1								X---	---X			
Task 2										X---	---X	

6. Water Availability and Sustainability – this information is needed to assess the viability and effectiveness of the water project or activity. Please provide a description of each water supply source to be utilized for, or the water body to be affected by, the water activity. For water supply sources being utilized, describe its location, yield, extent of development, and water right status. For water bodies being affected, describe its location, extent of development, and the expected effect of the water activity on the water body, in either case, the analysis should take into consideration a reasonable range of hydrologic variation.

WELKER AUGMENTATION PROJECT

The capacity on the Smith Tract (CCWCD's existing project) is somewhat dependent upon the volume pumped and duration. Capacity of the pipelines and the amount of water the wells can pump is about 27 cubic feet per second. This flow can be satisfied at the three ponds for a couple of weeks. As the pond sub-surface becomes saturated and the constructed storage space has been filled, the wells have to be turned down to match the infiltration. This reduction in flow depends upon whether or not the Jackson Reservoir fill ditch is in service, weather conditions, and when the ponds were last saturated. To date, the most water pumped was 24.4 cfs. In 2007 during the extended free river time (March – June), Central ran an average of 18 cfs constantly to the site. Therefore, the reduction in flow after the ponds are full and saturated would be about 25%.

Central filed a large application in 2005 coined the "Conjunctive Use Project" or CUP. The Orchard Aquifer Banking Project was listed as one of the projects within the CUP. The case number is 05CW331. Recalling the 25% reduction in flow rate as described in item A, 1, above, this reduction in flow would not occur due to additional land available for pond delivery. Central has also not run the fifth well that was drilled last. I would anticipate with the addition of a lift pump or booster pump 15 cfs could be delivered to the new ponds on the Sublette property on a nearly constant schedule. Water will be available for this site in large quantities when the call on the South Platte is junior to a 2005 call. This will happen typically during run-off, after large (region wide) thunder-storm events, and in the winter when the plains reservoirs are full, or if they are fighting ice jams in their canals. In the winter this scenario will either allow Central to divert at 100% capacity or at some reduced figure as allowed by the river commissioner. Water will be delivered to the

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Sublette site equally as to the existing basins. It will be Central's full intent to maximize the flow in each 24" pipeline.

HAREN WETLAND DEVELOPMENT

CCWCD has an existing decree that was filed in water court in 1987. The case number for the application is 87CW304. Under this decree, ponds can be added to the application. Water will be available for this site in large quantities when the call on the South Platte is junior to a 1987 call. This will happen typically during run-off, after large (region wide) thunder-storm events, and in the winter when the plains reservoirs are full, or if they are fighting ice jams in their canals. In the winter this scenario will either allow Central to divert at 100% capacity or at some reduced figure as allowed by the river commissioner. Unlike the Orchard Project, this site uses a reasonably senior recharge priority date. There will be several occasions when Haren can take water when Orchard could be limited to only augmentation plan excess due to the junior call. Central will prefer to deliver water to ponds the furthest from the river. The diversion structure on the Western Mutual is preliminarily planned to be to handle 40 cfs. This is nearly the capacity of the canal at this location. In the future, a well-field on the South Platte River is planned to deliver water in excess of this diversion capacity or as the only source when the canal is out of service or has no capacity. 80 acre-feet of diversions per day is possible when the ditch has room, so the yield of the project is mostly determined on when the river conditions allow for a 1987 to be in priority. Central will also have excess supplies now and then in either the GMS or WAS augmentation plans. This site is in an excellent location to deliver that excess supply.

PECKHAM AUGMENTATION SITE

The PVIC would be the entity that would deliver the water to the site.

In 2007, CCWCD entered into an agreement with PVIC for carriage of a 2005 water right. PVIC and Central have a carriage agreement signed in 2007 for delivery of a 2005 water right filed by CCWCD. Recharge accretions will lag back to the river over many years, providing a very good source of water. CCWCD estimates diversions of 300 to 400 acre-feet per year on an average year. This is provided there are 20 days of priority water and the PVIC is in operation at that time. Accretions to the river will not be felt for a few years as the project is located several miles from the South Platte. This project serves as an excellent drought mitigation measure. Its distance from the river allows for the delivery of water during wet years to cover the dry years.

7. Please provide a brief narrative of any related or relevant previous studies.

DU has successfully delivered similar projects in the lower reaches of the SPR in Colorado for many years. Early in our program efforts we

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joined Northern Colorado Water Conservancy District, the Lower South Platte Water Conservancy District and the South Platte Lower River Group to develop the Tamarack Recharge Project. This endeavor is the centerpiece of Colorado's contribution to the Platte River Recovery Program. Its success is testament to the strength of our partnership and the benefits of the wildlife/water partnership that the WCSD project emulates. We are confident that these previous projects, as well as many others in northeast Colorado, prove the suitability of these efforts in other parts of the South Platte Basin.

8. **Additional Information** – If you feel you would like to add any additional pertinent information please feel free to do so here.

This proposal is timely, coming as it does just prior to the announcement of available funds from multiple sources including the North American Wetlands Conservation Act, and Farm Bill Conservation programs like the Wildlife Habitat Improvement Program. It is a key strategy of DU's larger effort in this stretch of the river to utilize state dollars to leverage funds into a much larger program. This application seeks to leverage WSRA funds at a nearly 4:1 ratio. Moreover, DU continues to bring new funding partners to bear in meeting the water conservation needs along the South Platte River. Apart from the four new landowners involved in the project, we are also using this grant application to test the utilization of Farm Bill program funding in water supply projects in the watershed.

The above statements are true to the best of my knowledge:

Signature of Applicant:



Print Applicant's Name:

Dr. Stephen Adair, Director, Great Plains Region

Project Title:

Central South Platte Wetland Partnership

Return this application to:

Mr. Rick Brown
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 600
Denver, CO 80203

To submit applications by Email, send to: rick.brown@state.co.us

EXHIBIT B.2

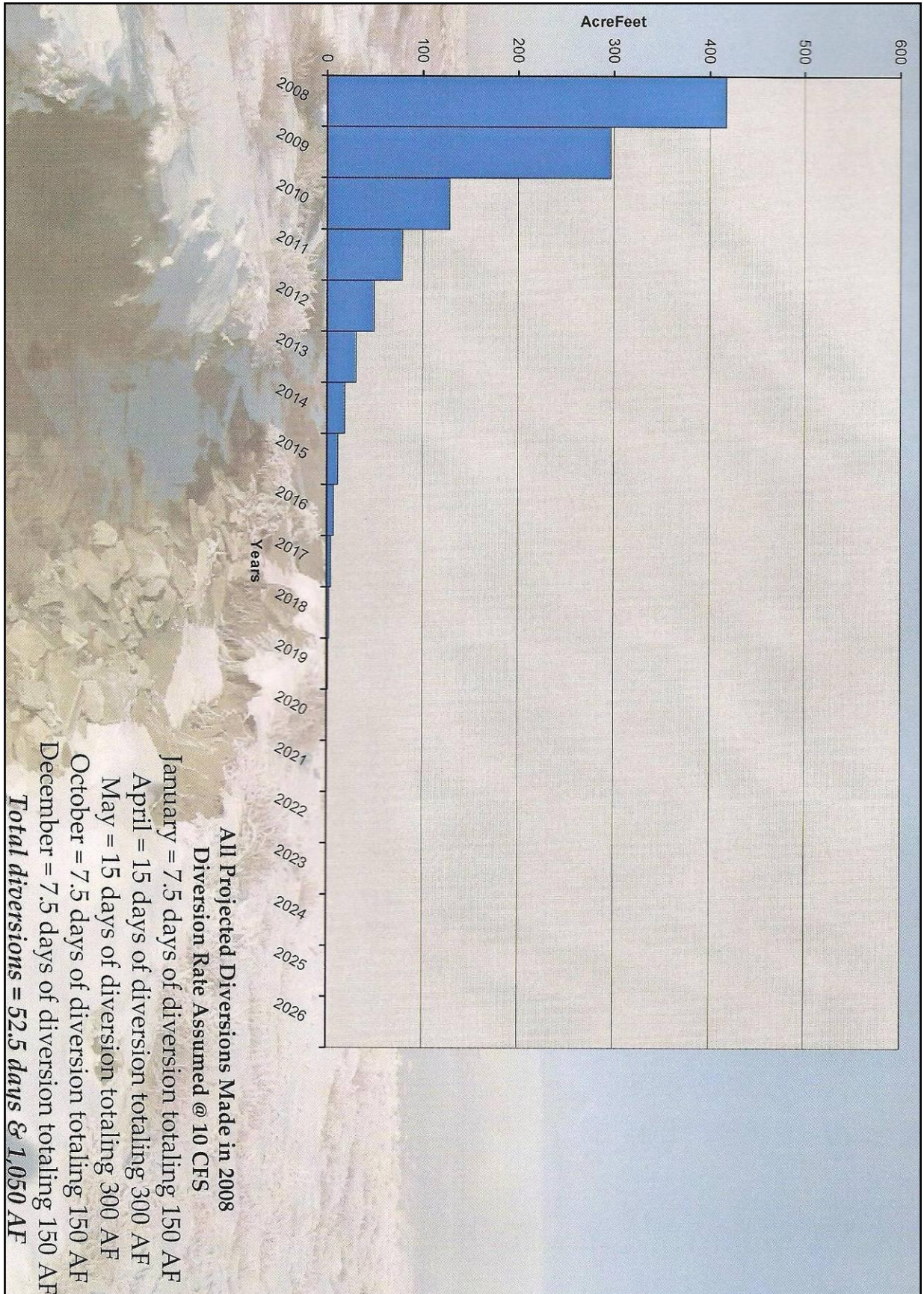


EXHIBIT C.1

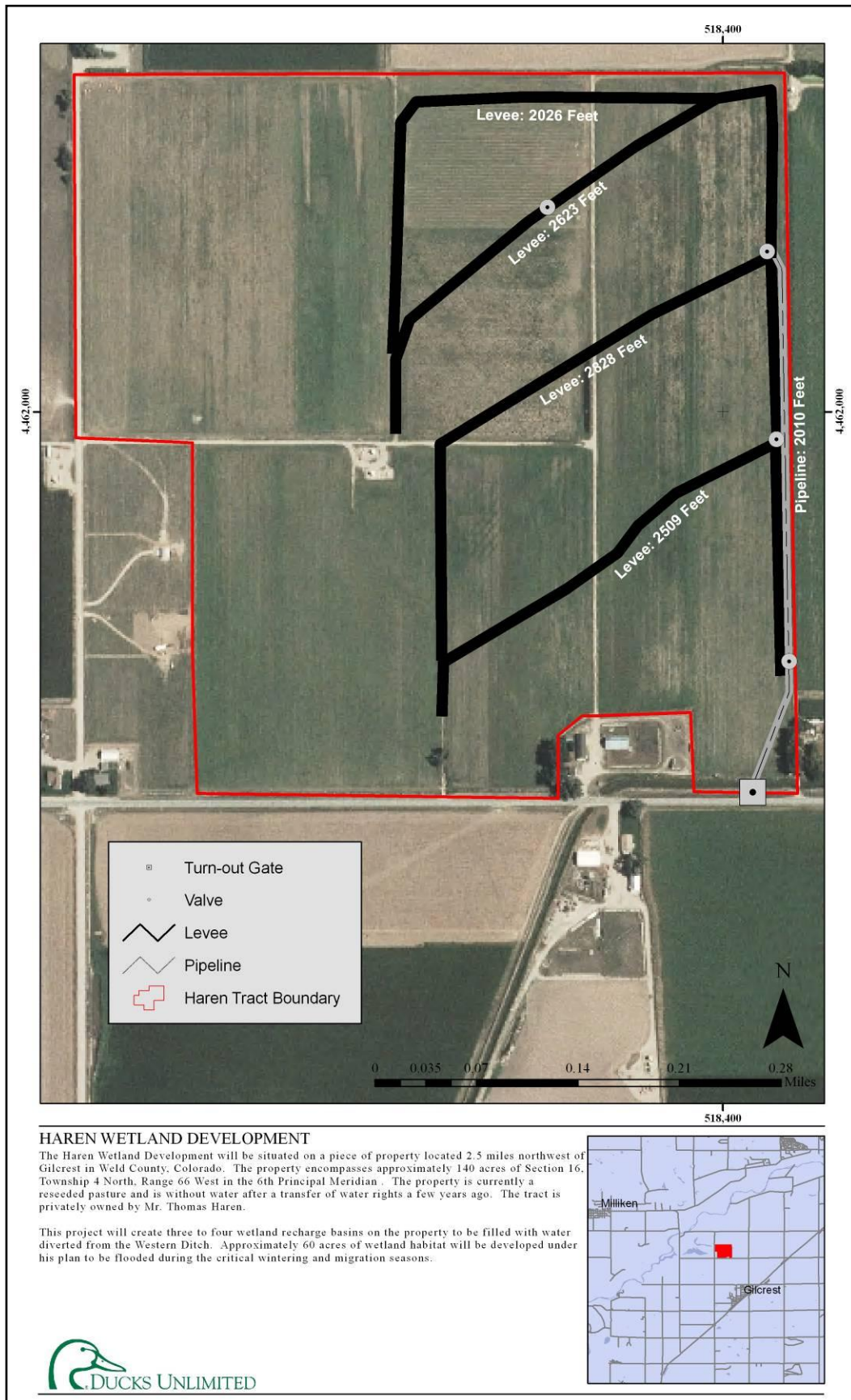


EXHIBIT C.2

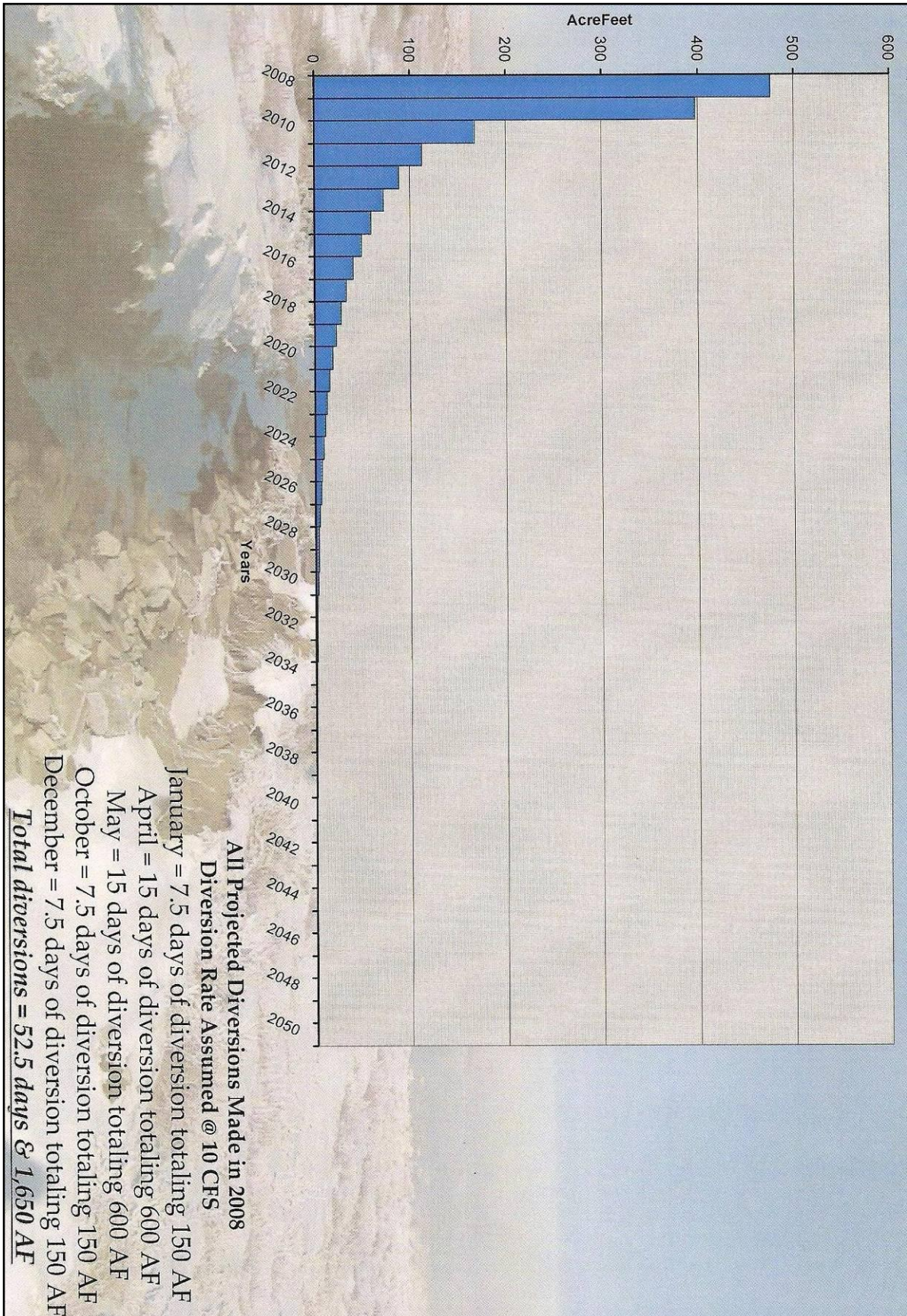


EXHIBIT D.1

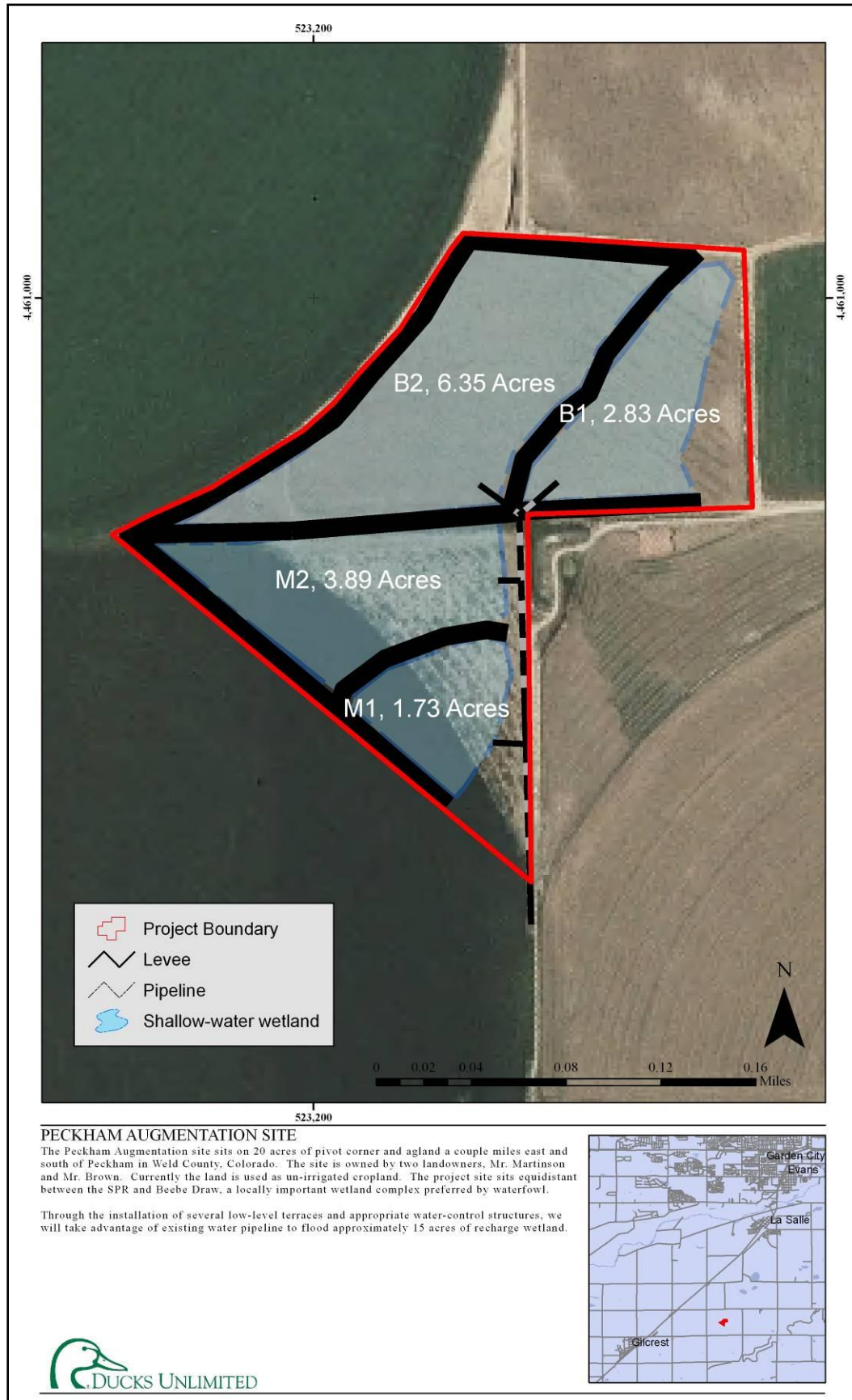


EXHIBIT D.2

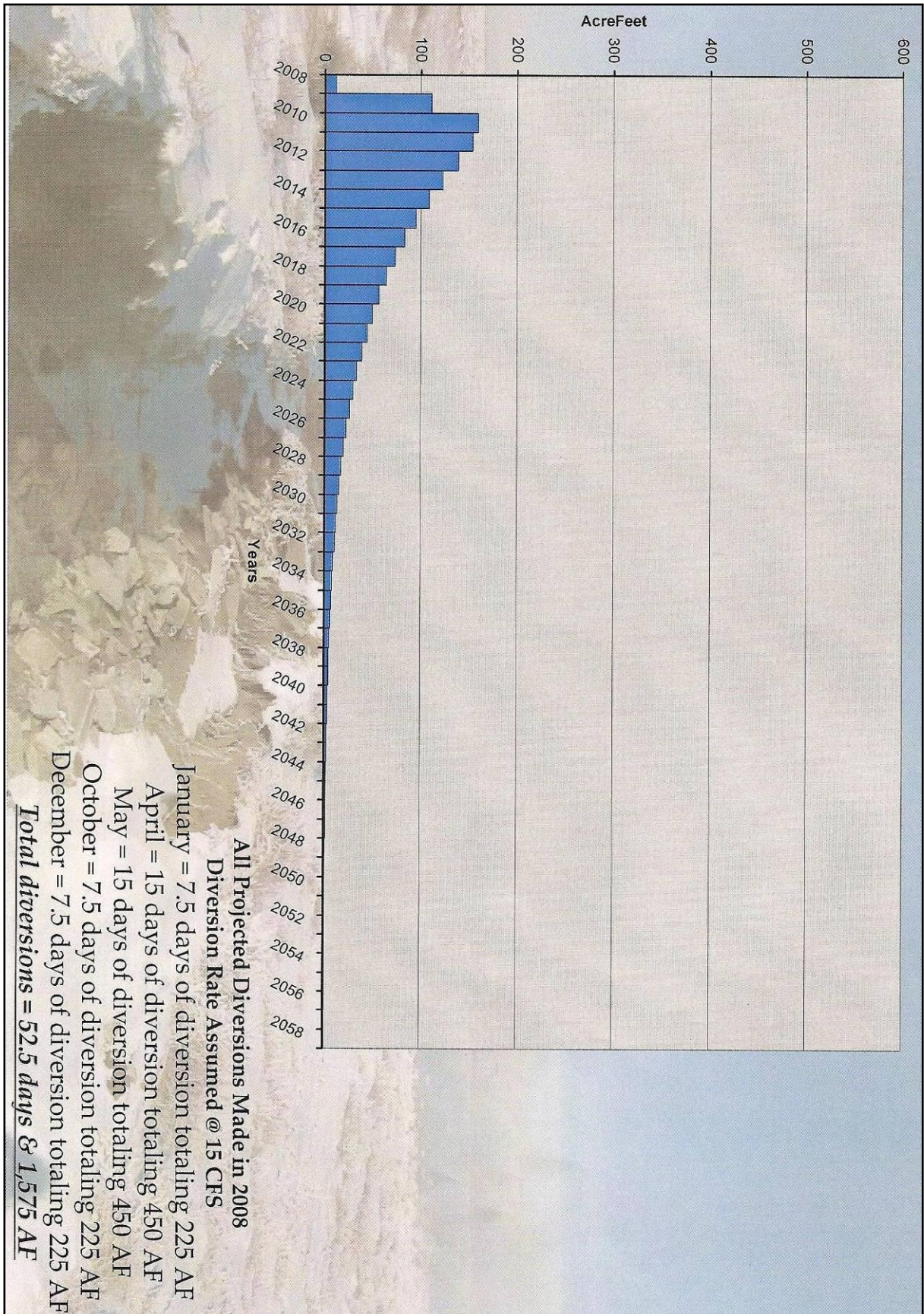


EXHIBIT E

Species List

Source: Colorado's Comprehensive Wildlife Conservation Strategy (2006). Colorado Division of Wildlife.

Medium Priority				Grass/Forb Dominated Wetlands				Riparian/Wetlands			
Tier 1 Species				Tier 2 Species							
Group	Species	Common Name	Primary	Group	Species	Common Name	Primary				
Amphibians	Bufo boreas boreas	Boreal toad (Southern Rocky Mountain Population)	☒	Amphibians	Scaphiopus couchii	Couch's spadefoot	☒				
Amphibians	Rana pipiens	Northern leopard Frog	☒	Amphibians	Gastrophryne olivacea	Great Plains narrowmouth toad	☒				
Amphibians	Rana blairi	Plains leopard Frog	☒	Amphibians	Acris crepitans	Northern cricket frog	☐				
Birds	Botaurus lentiginosus	American bittern	☒	Amphibians	Rana sylvatica	Wood Frog	☒				
Birds	Falco peregrinus anatum	American peregrine falcon	☐	Birds	Bucephala islandica	Barrow's goldeneye	☒				
Birds	Haliaeetus leucocephalus	Bald eagle	☐	Birds	Laterallus jamaicensis	Black rail	☒				
Birds	Aquila chrysaetos	Golden eagle	☐	Birds	Archilochus alexandri	Black-chinned hummingbird	☒				
Birds	Centrocercus urophasianus	Greater sage-grouse	☐	Birds	Podiceps nigricollis	Eared grebe	☒				
Birds	Grus canadensis tabida	Greater sandhill crane	☒	Birds	Sterna forsteri	Forster's tern	☒				
Birds	Centrocercus minimus	Gunnison sage-grouse	☐	Birds	Aythya affinis	Lesser scaup	☒				
Birds	Numenius americanus	Long-billed curlew	☐	Birds	Circus cyaneus	Northern harrier	☒				
Birds	Charadrius melodus	Piping plover	☐	Birds	Anas acuta	Northern pintail	☒				
Birds	Falco mexicanus	Prairie falcon	☐	Birds	Egretta thula	Snowy egret	☒				
Birds	Asio flammeus	Short-eared owl	☒	Birds	Plegadis chihi	White-faced ibis	☒				
Birds	Grus americana	Whooping crane	☒	Birds	Phalaropus tricolor	Wilson's phalarope	☒				
Mammals	Lontra canadensis	River otter	☐	Insects	Speyeria nokomis nokomis	Great Basin silverspot butterfly	☒				
Reptiles	Thamnophis sirtalis	Common garter snake	☒	Insects	Sympetrum madidum	Red-veined meadowfly	☒				
Reptiles	Kinosternon flavescens	Yellow mud turtle	☐	Insects	Speyeria idalia	Regal fritillary	☐				
				Insects	Euphyes bimacula	Two-spotted skipper	☒				