

Colorado Natural Heritage Program Wetland Program Plan -- Dec 2015 Status Update and Addendum --

The Colorado Natural Heritage Program (CNHP) developed a Wetland Program Plan (WPP) in 2010 for the planning years of 2011–2015. The plan contains six **strategic directions**, each with a series of **action items**. The strategic directions and action items are described in detail in the 2011-2015 WPP (see attached). The following status update provides a brief summary of accomplishments towards each action item as of December 2015. This document also serves as an addendum to the plan to extend its time frame to cover 2016 and 2017. In the addendum, we specifically highlight areas of work that we will focus on in those two additional year, including another attempt to create a new, multi-agency WPP.

In 2014 CNHP applied for an EPA Region 8 Wetland Program Development Grant to create a new, more comprehensive, multi-agency Colorado WPP for 2016–2020, the proposal was not accepted and CNHP has not had the funding to create a new WPP. The current WPP ends on December 31, 2015.

Status Update on Action Items from 2011–2015

Wetland Types: Classification and Identification

CNHP is recognized state and region-wide as the leading resource on wetland classification, identification, condition analysis, and education for local and state governments, agency personnel, conservation partners, consultants and private citizens. The following action items will help wetland professionals determine the *types of wetlands* that occur in Colorado.

Action items

- **Publish a Field Guide to Wetland Plants of Colorado.** Status: **Complete.** The *Field Guide to Colorado's Wetland Plants* was published in April 2013.
- **Develop Key and Descriptions for Wetland Ecological System.** Status: **Complete.** A key to wetland ecological systems is available on the Colorado Wetland Information Center (CWIC) website.
- **Create a Colorado Wetland Website.** Status: **Complete.** The Colorado Wetland Information Center (CWIC) website can be found at <http://www.cnhp.colostate.edu/cwic/index.asp>. Content on this website is updated as projects are completed and new information is available.
- **Publish Pocket Guides to Common Wetland Plants of Colorado.** Status: **Complete.** The pocket sized publication *Common Wetland Plants of Colorado's Eastern Plains* was published in June 2014. CNHP will seek funding for Pocket Guides for Wetland Plants in the Southern Rocky Mountains and Colorado Plateau or West Slope in future years.
- **Conduct Professional Trainings on Wetland Plant Identification.** Status: **Complete.** Multiple plant ID trainings were held in 2014 and 2015. Given the popularity of these training, CNHP will look for every opportunity to hold additional trainings in future years.
- **Revise and Reprint the Field Guide to the Wetland and Riparian Plant Associations of Colorado.** Status: **Planned.** This item is still a proposed goal for which we will seek funding in future years.
- ***NEW* Create a Mobile Application for Information on Wetland Plants and Wetland Maps.** Status: **Complete.** This action item was not in the original WPP, but was undertaken as a companion to the wetland plant field guides and wetland mapping. The App will be available through the Apple App Store and Google Play Store in January 2016.

Extent and Location: Comprehensive Digital Wetland Mapping

CNHP will work with the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) Program and numerous funding partners to create a comprehensive digital map of wetlands for the state of Colorado by 2015. CNHP will be recognized as the best source of digital wetland data and will help determine the *extent and location* of wetlands across the state.

Action items

- **Compile Known Sources of Digital Wetland Data.** *Status: Complete.* All major data sources were compiled and reported on in the 2011 report *Statewide Strategies to Improve Effectiveness in Protecting and Restoring Colorado's Wetland Resource*, available on CNHP's website. The most important data sources are also available on the Colorado Wetland Inventory online mapping tool.
- **Convert Existing NWI Paper Maps to Digital Data.** *Status: Complete.* Between 2008–2014, CNHP converted 1243 quads worth of original paper NWI maps into digital data. This brought the state from <15% digital in 2008 to 90% digital by 2014. USFWS completed the remaining 10% in 2014, resulting in 100% coverage of digital NWI maps for Colorado.
- **Delineate New NWI Maps for Select Areas.** *Status: In Progress.* Since 2008, CNHP has delineated 215 quads of new NWI maps. We will continue to seek funds for new mapping whenever possible.
- **Develop an Interactive Online Wetland Mapping Tool.** *Status: Complete.* The interactive online wetland mapping tool is complete and can be accessed through the CWIC website, specifically from this link: <http://www.cnhp.colostate.edu/cwic/location/viewSpatialData.asp>.
- **Monitor Change in Wetland Area over Time.** *Status: In Progress.* We have assessed or are in the progress of assessing change in wetland acres over time in three specific project areas (Northern Front Range, Arkansas River Headwaters, and Lower Arkansas River Basin) and will seek funds to continue this work in the future.

Wetland Condition Assessment Protocols

CNHP will continue to refine wetland condition assessment protocols developed over the past 5 years and will promote their use to public and private entities conducting wetland condition assessments. These protocols follow both the EPA's Level 1-2-3 framework and Ecological Integrity Assessment (EIA) framework of the NatureServe Network.

Action items

- **Develop a Landscape Integrity Model for Wetlands (Level 1).** *Status: Complete and Planned.* The initial Landscape Integrity Model for Wetlands was developed in 2011. We plan to refine the model in a current WPDG grant that is underway.
- **Refine Rapid Wetland Assessment Protocols (Level 2).** *Status: Complete.* CNHP has refined EIA Level 2 protocols though each river basin wetland assessment by applying the methods to new wetland types in new regions of the state. We were also involved with a multi-state project to compare EIA methods in five different states, which resulted in a standardize approach to the method. The Level 2 EIA Manual is available on the CWIC website at <http://www.cnhp.colostate.edu/cwic/assessment/methods.asp#Level2>. Through our work in the City and County of Denver, we have also tested the application of EIA Level 2 protocols in urban wetlands, which present unique challenges. In addition, in partnership with Colorado Parks and Wildlife, we are working on Level 2 methods to assess wildlife habitat quality.
- **Expand Intensive Field Protocols (Level 3).** *Status: In Progress.* We have made minor improvements to the FQA method as we apply it to new wetland types. Through a current WPDG grant, we are developing Level 3 water chemistry sampling protocols, in partnership with Colorado River Watch.
- **Create Data Management Tools.** *Status: Complete.* The Wetland Condition Assessment Database (WetCAD) was developed in 2009 and has been used to analyze all wetland assessment data since. A FQA calculator was developed and is available online through the CWIC website. In addition, CNHP developed the WETHab database to analyze wildlife habitat quality data. All three databases are revised as field protocols are updated.

- **Conduct Trainings on Condition Assessment Protocols.** *Status: Complete.* Trainings on the Level 2 EIA method were held in June 2013 and September 2015, based on the Field Manual produced by CNHP. In addition, the manual has been used by both Wyoming and Utah as a model for their Level 2 assessment methods. CNHP will look for every opportunity to hold additional trainings in future years.
- **Long-term Monitoring of Reference Condition Wetlands.** *Status: In Progress and Planned.* As part of the past two river basin scale assessment projects (Lower South Platte and Lower Arkansas), reference condition wetlands on the plains have been identified and surveyed. These sites, along with known reference wetlands in the mountains, form the basis of a reference network. We plan to seek funds to formalize and monitor this network at a reoccurring interval to quantify inter-annual variation and detect change.

Probabilistic Wetland Condition Assessments

CNHP will conduct probabilistic assessments of wetland condition for all river basins at the 6-digit hydrologic unit code (HUC) level by 2020. Beyond 2020, these assessments could be repeated at 10 year intervals to monitor change over time. CNHP will also participate in national assessments of wetland condition.

Action items

- **Conduct Basin by Basin Wetland Condition Assessments.** *Status: In Progress.* CNHP has completed three basinwide assessments (Rio Grande Headwaters, North Platte, and Lower South Platte), and a fourth is in progress (Lower Arkansas). In addition, we assessed the condition of wetlands in two smaller project areas: the northern Front Range corridor and the City and County of Denver. We plan to continue to assess wetlands on a river basin scale over the coming years. At this point, it is clear that we will not complete the entire state by 2020. These projects are highly complex and require several years each to complete. However, the past two basins on the plains (Lower South Platte and Lower Arkansas) were by far the largest and most complicated to work in and the upcoming mountain basins will be more straightforward and will possibly require less time.
- **Conduct Sampling for the National Wetland Condition Assessment.** *Status: Complete and Planned.* CNHP carried out sampling in Colorado and Wyoming for the National Wetland Condition Assessment in 2011. We plan to participate in the upcoming 2016 assessment.

Wetlands with High Biodiversity Significance

CNHP will continue to be the leading organization that identifies and tracks wetlands of high biodiversity significance. This has been the core work of CNHP for over 15 years and will continue to be a major focus of our wetland plan.

Action items

- **Conduct Surveys for Wetlands with High Biodiversity Significance.** *Status: Complete, In Progress and Planned.* Since 2011, CNHP completed surveys in Gilpin County, Teller County, Jefferson County, and Denver County. We are midway through a survey of Huerfano County. And we are proposing to conduct a survey of Lake County in 2016.
- **Conduct Surveys for Fen Wetlands.** *Status: Complete and In Progress.* CNHP conducted surveys of fen wetland on the White River National Forest in 2011. We are currently working on two fen mapping projects, one for the Rio Grande National Forest and one for the Colorado Department of Transportation. We will seek similar funding from other forests and land management agencies.
- **Participate in Conservation Planning.** *Status: In Progress.* Identifying potential conservation areas are part of every county survey and CNHP seeks every opportunity to aid in conservation planning.
- **Identify Priority Wetlands for Protection Status.** *Status: Planned.* CNHP hopes to engage with the regulatory agencies in the future regarding protection status of specific high priority wetlands.
- **Produce an Atlas of Colorado Wetlands.** *Status: Planned.* This action item is a proposed goal for which we will seek grant funding.

Empowering Public and Private Partners

CNHP will coordinate and partner with federal, state, and local agencies as well as with conservation organizations and local citizens to transform the information gained through the previous strategic directions into effective conservation and management.

Action items

- **Help CPW Plan Restoration Priorities and Evaluate Wildlife Habitat.** *Status: In Progress.* CNHP has worked closely with CPW on each of the basinwide assessments and has tailored the data collection protocols to provide meaningful data on wetland habitat quality.
- **Help ACOE Plan Wetland Mitigation in the Watershed Context.** *Status: Complete and In Progress.* CNHP jointly developed and demonstrated the Colorado Watershed Approach (CoWAP) with Colorado State University researcher Dr. Brad Johnson in 2013. A subsequent project is currently underway to develop protocols for stream mitigation.
- **Help CDPHE Report on Wetland Condition for Integrated Reporting Requirements.** *Status: Complete and Planned.* CNHP authored the first wetland section for the CDPHE's 2012 Integrated Report. We hope to continue to contribute a section in future reports.
- **Help Land Management Agencies Meet Objectives for Wetlands.** *Status: In Progress.* This action item represents numerous ongoing relationships that we continue to foster and develop, including a current project to build an online restoration prioritization tool for all wetland resource managers.
- **Provide Data to State Planning Processes on Water Supply and Demand.** *Status: Planned.* This action item is a proposed goal for which we will seek funding in the coming years.
- **Provide Data to Conservation Partners.** *Status: In Progress.* This action item represents numerous ongoing relationships that we continue to foster and develop.

Addendum to the Colorado WPP to cover Planning Years 2016–17

This Addendum serves to extend the current Colorado WPP for two additional years and highlights goals that we will specifically address in those years. Specific action items from the existing WPP are called out here, as they represent items of focus in 2016–17, and two new action items are described.

Wetland Types: Classification and Identification

- **Publish Two Pocket Guides to Common Wetland Plants of Colorado.** We will seek funding to create a pocket guide to common wetland plants of the Southern Rocky Mountains and Colorado Plateau Regions in 2016.
- **Conduct Professional Trainings on Wetland Plant Identification.** We will seek funding to hold additional wetland plant identification trainings in 2016–18.

Extent and Location: Comprehensive Digital Wetland Mapping

- **Delineate New NWI Maps for Select Areas.** We will continue to seek funds for new NWI mapping whenever possible.

Wetland Condition Assessment Protocols

- **Develop a Landscape Integrity Model for Wetlands (Level 1).** We have funds to refine the Level 1 Landscape Integrity Model for Wetlands through a current WPDG grant that is underway.
- **Expand Intensive Field Protocols (Level 3).** We are developing Level 3 water chemistry sampling protocols, in partnership with Colorado River Watch, through a current WPDG grant that is underway.
- **Conduct Trainings on Condition Assessment Protocols.** We will seek funding to hold additional Ecological Integrity Assessment (EIA) trainings in 2016–17. We will seek these funds from partner agencies interested in using the protocols, but not through a 2016 WPDG. We already have funds to provide the training for the Southern Utes Indian Tribe outside of Durango, Colorado.
- **Long-term Monitoring of Reference Condition Wetlands.** As part of the past two river basin scale assessment projects (Lower South Platte and Lower Arkansas), reference condition wetlands on the plains have been identified and surveyed. These sites, along with known reference wetlands in the mountains, form the basis of a potential reference network. We will seek funds in 2016 to formalize and monitor this network at a reoccurring interval to quantify inter-annual variation and detect change. These reference sites can also serve as benchmarks for restoration projects undertaken by any agency or other interested party. One step in formalizing this network will be compiling all wetland condition assessment data from the over 500 sites sampled to date into one database with consistent scoring protocols.

Probabilistic Wetland Condition Assessments

- **Conduct Basin by Basin Wetland Condition Assessments.** We will complete the analysis of the Lower Arkansas River Basin wetland assessment. We will not seek funds for a new basin in 2016, as we will be involved in the National Wetland Condition Assessment (see below).
- **Conduct Sampling for the National Wetland Condition Assessment.** We will conduct sampling Colorado for the 2016 National Wetland Condition Assessment.

Wetlands with High Biodiversity Significance

- **Conduct Surveys for Wetlands with High Biodiversity Significance.** We will seek funds to conduct a survey of wetlands with high biological significance in Lake County.

- **Conduct Surveys for Fen Wetlands.** We are currently working on two fen mapping and survey projects. We are currently mapping all fen wetlands the Rio Grande National Forest. In January 2016, we will begin mapping fen wetlands within 500 m of all state highways for the Colorado Department of Transportation (CDOT). Once fens are mapped along the state highways, we will visit as many as possible to verify that they are fens and collect basic field data. We will seek similar funding from other forests and land management agencies. We are currently discussing the possibility of mapping fens on forests in U.S. Forest Service Region 4.
- **Participate in Conservation Planning.** Identifying potential conservation areas are part of every county survey and CNHP seeks every opportunity to aid in conservation planning.

Empowering Public and Private Partners

- **Help CPW Plan Restoration Priorities and Evaluate Wildlife Habitat.** We will continue to refine tools for evaluating wetland habitat quality. We will also finalize the assessment of habitat quality in the Lower Arkansas River Basin, which includes creating spatial models of habitat suitability for priority wildlife species.
- **Help Land Management Agencies Meet Objectives for Wetlands.** This action item represents numerous ongoing relationships that we continue to foster and develop, including a current project to build an online restoration prioritization tool for all wetland resource managers.

Additional Action Items for 2016–17

- **Develop a Comprehensive, Multi-agency Wetland Program Plan for Colorado.** The current CNHP-authored WPP has served as an important guiding document for our work on wetlands. However, we feel strongly that a WPP authored by many state agencies would produce a document with even greater relevance for all partners in the state. CNHP will seek funds to create a multi-agency WPP in 2016.
- **Assess the Condition and Value of Urban Wetlands.** Wetlands in the urban areas of the Front Range face a range of pressures, from high concentration of non-native species to increased water pollution. However, they are some of the hardest working wetlands in the state, as they buffer major population centers from excess run-off and water quality concerns. They also provide valuable pockets of natural habitat in an otherwise developed landscape. CNHP began to look specifically at urban wetlands in the survey of wetlands in the City and County of Denver. We will seek funds in 2016 to continue this work on urban wetlands in the City of Aurora.