

Regulatory Challenges and Solutions for Sierra Nevada Meadow Restoration

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Purpose

Meadows provide significant watershed benefits and resilience to climate change by slowing and filtering peak flows, storing water into the late season, improving water quality, and providing essential habitat for 50% of California’s plant and 60% of California’s animal species (Sierra Nevada Conservancy, 2014; USDA Forest Service, 2014). However, the U.S. Forest Service (USFS) estimates that 50% of Sierra Nevada meadows are degraded by human impacts. There is a need to restore Sierra meadows at a scale that will provide tangible benefits at the regional scale. To achieve meadow restoration at scale, a diverse group of collaborators created the Sierra Meadows Partnership (SMP) and developed the Sierra Meadows Strategy in 2016 to guide comprehensive efforts to increase the pace and scale of meadow restoration in the Sierra Nevada. The Sierra Meadow Strategy is an “all-hands, all-lands” approach to increasing the pace, scale and efficacy of meadow restoration and protection throughout the Greater Sierra Nevada, with a 15-year goal (by 2030) of restoring 30,000 acres of meadows.

The purpose of this paper is to:

- Catalyze new conversations and strategies to reduce persistent regulatory barriers to achieving meadow restoration at a pace and scale that will result in landscape-level benefits for the Sierra Nevada region;
- Summarize the most common and significant regulatory challenges slowing or preventing meadow restoration; and
- Identify and evaluate potential ways to address these challenges, including current initiatives and additional recommendations, including best practices that can facilitate permitting and compliance for current projects.

This white paper includes a problem statement, an introduction (p. 2), a summary of significant/common regulatory challenges for meadow restoration projects and suggested potential solutions (p. 2), current initiatives for addressing regulatory challenges (p. 12), and conclusions and recommended next steps (p. 15).

Problem Statement

Permitting and environmental compliance is acknowledged as an onerous, time consuming and costly component of meadow restoration projects and is recognized as a bottleneck for implementation on the ground. There is a need to improve the permitting processes for meadow restoration in order to increase the pace and scale of restoration to meet the targets of the Sierra Meadows Partnership and state and federal agencies, and to achieve benefits at the regional scale. Currently, regulatory compliance for a meadow restoration project can involve as many as nine different regulatory processes including NEPA, CEQA, Clean Water Act (CWA) Section 401 and Section 404, California Department of Fish and Wildlife (CDFW) Section 1600 Lake and Streambed Alteration (LSA) Agreement, Federal Endangered Species Act (ESA) Section 7, California Endangered Species Act (CESA), National Historic Preservation Act (NHPA) Section 106, and National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP).

How can we streamline permitting and environmental compliance for meadow restoration projects so that meadow restoration can occur at a pace and scale that results in landscape level benefits for the Sierra Nevada and state of California?

***Streamline:** to make (an organization or system) more efficient and effective by employing faster or simpler working methods.*

Introduction

This white paper is the result of three years of knowledge gathering by the Sierra Meadows Partnership (SMP) Regulatory Workgroup and draws on the collective experience of Sierra Meadows Partnership practitioners implementing projects for more than 10 years. The SMP Regulatory Workgroup convened meetings between meadow restoration practitioners and regulatory agency staff, reviewed literature, participated in high-level initiatives including the CDFW-led Restoration Leaders Committee (RLC), and coordinated with other groups including Sustainable Conservation who are working to streamline permitting in California. We also conducted a survey of meadow restoration practitioners affiliated with the SMP to identify the most common and significant regulatory challenges for meadow restoration.

The meadow restoration practitioners of the SMP unanimously identified permitting and environmental compliance as a key bottleneck limiting the pace and scale of restoration. To identify the most common and significant regulatory challenges for meadow restoration projects, the SMP Regulatory Workgroup conducted a survey of SMP-affiliated meadow restoration practitioners in 2018-2019. This paper reflects the results of this survey, additional case studies of SMP participants and conversations with regulatory agencies.

It also summarizes current initiatives for addressing regulatory challenges including:

- Sustainable Conservation's Statewide Aquatic Habitat Restoration Initiative, which will develop a statewide Section 401 General Water Quality Certification/Waste Discharge Requirements (General Order) and accompanying programmatic EIR (PEIR) for CEQA, as well as statewide Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) for U.S. Army Corps of Engineers (USACE) Section 404 compliance;
- CDFW Restoration Leaders Committee, which has developed recommendations for improving regulatory processes for CDFW-funded projects; and
- Cutting Green Tape initiative, which aims to improve state agency permitting and funding efficiencies for ecological restoration and natural resources stewardship.

Significant/Common Regulatory Challenges and Potential Solutions

This section is organized by key themes and by permit/agency where appropriate. It highlights the most significant and commonly identified challenges in each section, as well as identifies potential ways to address these challenges.

Overarching/General Regulatory Challenges

Slow agency processes/review times, especially in conjunction with rigid funding timelines

Slow agency processes including responses, review times and slow timelines are the most common regulatory challenge identified by meadow restoration practitioners. Additional detail is provided by agency/permit below. Slow agency processes for completing environmental compliance and permitting are especially problematic in conjunction with the sometimes-rigid timelines imposed by funding sources, such as state bond funds, where extensions are not permitted. To safeguard against this, some NGOs breakdown planning into separate design and permitting grant phases, which further slows project timelines.

Potential solutions/recommendations:

- Educate restoration practitioners about timelines for regulatory processes to improve grant schedule development.
- Restoration practitioners and agency staff communicate early and clearly articulate and map out grant timelines and regulatory process timelines. This may be limited by regulatory staff capacity.
- Increase flexibility of grant funding to accommodate sometimes unpredictable permitting timelines, for example more flexibility in combining planning and implementation funding.

Inconsistencies in permit requirements/interpretation between offices/staff of the same agency

Meadow restoration practitioners frequently face inconsistent permit requirements and interpretations when working with specific offices or even individual staff within a single agency. See sections below for specific examples. These inconsistencies often lead to unexpected additional requirements that can create unexpected costs and delay project timelines. These inconsistencies make it challenging to develop accurate grant budgets and to meet requirements in time to accomplish work during the limited summer-fall construction season for meadow restoration projects.

Potential solutions/recommendations:

- Reduce silos within departments of the same agency and across offices. For example, increased communication between the grant making, engineering and LSA staff at CDFW to increase coordination toward agency goals.
- Improve top-down guidance on issues where interpretations have been varied. For example, CDFW could issue statewide guidance about when an LSA is required on federal land for projects funded by CDFW and other state funding sources.
- Articulate side boards to help individual staff evaluate the need for supplemental information required on a case-by-case basis. This could include internal or external guidance.
- Increase programmatic approaches to permitting. The State Water Resources Control Board's (State Water Board) statewide General Order for large habitat restoration projects, described in detail under the "Current Initiatives" below, will develop programmatic Section 401 compliance and CEQA, increasing certainty around these processes.

Costs associated with permitting and environmental compliance

This includes both the costs of assessments and work needed to complete compliance and permitting and actual permit fees. In particular, the costs for aquatic resources delineations, biological/cultural resource surveys,

engineered designs (when required) and development of Stormwater Pollution Prevention Plans (SWPPP) really add up for individual projects. In addition, the CDFW Lake and Streambed Alternation notification fee, which can range between \$700-\$5,500 per project, can be especially problematic when the need for this notification is interpreted differently by different offices/staff, sometimes resulting in significant funding gaps.

Potential solutions/recommendations:

- Develop reduced or waived fees for ecological restoration projects. The Regional Water Quality Control Boards Water Boards already have a reduced fee for ecological restoration projects. CDFW could follow this example.
- Increase programmatic approaches to permitting. The State Water Board's statewide General Order for large habitat restoration projects, with its programmatic Section 401 compliance and CEQA should reduce the costs associated with acquiring individual certifications on a project-by-project basis.
- Reduce or streamline the assessments/materials needed to complete environmental compliance and permitting. For example, removing the requirement to complete a full aquatic resources delineation report for ecological restoration projects that aim to enhance wetlands.

Specific Regulatory Challenges

CEQA

Numerous meadow restoration practitioners identified completing CEQA as a significant regulatory hurdle. The root of the issue is the lack of a clear CEQA pathway under different funding and permitting scenarios, causing project proponents to navigate CEQA on a project-by-project basis. This is highly inefficient compared to programmatic approaches and leads to costly delays. State agencies often require completed CEQA to approve implementation grants so delays in CEQA can jeopardize funding and cause major project delays.

Potential solutions/recommendations:

- Develop programmatic CEQA approach with key state agency with regulatory/funding nexus for meadow restoration projects.
- The State Water Board's statewide General Order for large habitat restoration projects will develop a programmatic EIR (PEIR) for CEQA for habitat restoration projects exceeding five acres. It is anticipated to significantly streamline CEQA for larger meadow restoration projects.

Determining the CEQA lead agency

State agencies with a frequent CEQA nexus for meadow restoration projects include regulatory agencies including the Regional Water Boards and CDFW, key state funding entities including CDFW and the California Wildlife Conservation Board (WCB), and local entities like counties and Resources Conservation Districts. Although funding entities have stated funding priorities for meadow restoration and regulatory agencies express support for ecological restoration projects, they continually attempt to avoid being CEQA lead agency, citing a lack of capacity and pointing to the other agencies' CEQA nexus. This reticence of agencies to accept the role of CEQA lead results in time consuming negotiations on a project-by-project basis that result in project delays. Ironically, this frequently causes projects to become ineligible for state implementation funds requiring CEQA compliance for approval.

From a regulatory standpoint, the Regional Water Boards and CDFW are the two main potential CEQA leads based on CWA Section 401 and CDFW Section 1600 approvals. Section 401 compliance is required for almost all meadow restoration projects, whereas Section 1600 compliance is sometimes not required for projects on federal land depending on state funding and non-federal project partners. Prior to Proposition 1 funding (2014),

CDFW had typically not required Section 1600 permits on federal land, however since Proposition 1, CDFW has now frequently required Section 1600 permits for projects on federal land where CDFW provides funds to a non-federal partner for the project (see CDFW Section 1600 below for more detail). Thus, under Proposition 1 and 68, when CDFW funds a project, they are also a regulator. This new role of CDFW as funder and regulator, which appears to elevate CDFW's responsibility for the project when determining CEQA lead agency, has caused new confusion in determining the CEQA lead between these two agencies. This is compounded when other state agencies also provide funding.

This issue is further compounded by CDFW's internal policies about leading CEQA. Unlike the Regional Water Boards, where grantees can draft CEQA assessments and documents and the Regional Water Board provides review and approval, based on correspondence with CDFW, their internal policies require them to use external CEQA consultants, which can cost thousands of dollars and take considerable time. These costs cannot be paid for by CDFW grant funds, which could create a significant budget gap for grantees pursuing this CEQA approach. Fortunately, despite initial reluctance, the Regional Water Boards are often ultimately willing to accept the role of CEQA lead to help advance ecological restoration projects.

Potential solutions/recommendations:

- The State Water Board's new General Order and associated PEIR (described below) will make CEQA compliance more efficient for projects exceeding five acres, which will hopefully make potential lead agencies less reluctant to accept the role of lead agency. However, issues could still arise depending on the nuances of the project.
- High-level staff from the two primary regulatory agencies for meadow restoration, the State/Regional Water Boards and CDFW, meet and discuss their respective CEQA nexuses under common funding and landownership scenarios and determine the appropriate CEQA lead under each. This information should then be communicated to grant making and regional staff, obviating the need to make these determinations on a project-by-project basis. This approach should include consideration of the new State Water Board General Order and PEIR. The discussion could also include other key funders like WCB.

Determining the type of CEQA document required

Meadow restoration projects most frequently fit a Categorical Exemption (CE) from CEQA under the Section 15333 Small Habitat Restoration Projects exemption, if the project area is under five acres, or require a Mitigated Negative Declaration. However, the language of the Small Habitat Exemption sometimes leads to challenging interpretations, including how to determine project size and whether a project will have a significant adverse effect on endangered, rare, or threatened species. The latter has been a challenge when an agency that is not traditionally involved in evaluating impacts to species, like the Regional Water Board, is CEQA lead and does not feel comfortable making a determination based on species impacts.

Potential solutions/recommendations:

- The Cutting Green Tape initiative, which is described in detail under the "Current Initiatives for Addressing Regulatory Challenges" section below, included a recommendation to obtain clearer interpretations from the California Natural Resources Agency (CNRA) about the specific language included in the Section 15333 Small Habitat Restoration CE to improve its use, such as clarifying its use in special status species habitat.
- As CDFW has greater expertise regarding habitat and species impacts than the Regional Water Boards, they either accept leading CEQA for these types of projects or facilitate making this determination for projects where they are a responsible agency.

CEQA compliance for US Forest Service (USFS) projects

The USFS is a key land manager for meadow restoration efforts in the Sierra Nevada. USFS CEQA expertise varies greatly across forests and individual staff, as CEQA is not required for USFS projects that do not require a state or local governmental agency's discretionary approval. However, nearly any project that will affect the stream channel or wetlands within a meadow will require a Section 401 Water Quality Certification from the Regional Water Boards, so CEQA will be required for nearly all meadow restoration projects. State funding also triggers CEQA. CEQA issues and delays occur on USFS land when USFS analyses and documents do not meet the slightly different requirements of CEQA. The most common are not including California listed sensitive species in biological assessments and not including mitigation measures when a project will require an Environmental Assessment under NEPA, but a Mitigated Negative Declaration under CEQA.

Potential solutions/recommendations:

- Increase USFS and partners awareness and acceptance that nearly all meadow projects that affect the stream channel or wetlands will require CEQA and incorporate CEQA requirements when developing NEPA assessments. Partners and USFS leadership work to increase USFS district level staff's awareness that CEQA will be required and about CEQA requirements that differ from NEPA.
- As the State Board's PEIR for CEQA comes online, the USFS ensures their analyses provide the information needed to use it.
- USFS staff include California listed sensitive species in Biological Assessments and Biological Evaluation documents, in addition to federally listed species.
- USFS and partners consider CEQA requirements at the beginning of NEPA not after documents have been developed and consider developing joint documents where an Environmental Assessment/MND will be required. The Executive Office of the President of the US and the OPR developed a resource entitled "NEPA and CEQA: Integrating Federal and State Environmental Reviews" to help facilitate integration of these processes.
- The state could follow on the example of Senate Bill (SB) 901 which provides an exemption from CEQA for prescribed fire, thinning or fuel reduction for projects located on federal land that have NEPA complete. The state could develop a similar streamlining process for meadow restoration and stream restoration projects on federal land.

NEPA

Numerous meadow restoration practitioners identified long timeframes/delays completing NEPA as a significant regulatory hurdle, especially highlighting experiences working on USFS land, but also related to compliance with Section 7 ESA and Section 106 NHPA compliance.

NEPA delays for USFS projects

Meadow restoration practitioners identified a suite of contributing factors leading to delays completing NEPA for USFS projects. Long NEPA timelines can become incompatible with strict grant timelines. Factors include:

- Competing priorities and limited capacity. Budget constraints put a lot of pressure on limited USFS staff to complete a variety of project types and duties. Different national political climates can result in changing priorities, which can disrupt momentum for watershed-related projects. For example, under the Trump administration, priorities shifted toward timber projects, leaving a capacity vacuum for meadow projects. In addition, limited USFS staff often have to drop other projects to provide assistance for fires and time-sensitive fire remediation, especially during the limited low-flow construction period.
- Individual staff determine support/capacity. The capacity and will to carry out meadow restoration projects are often determined by individual USFS staff. Despite USFS Region 5 leadership support of the SMP, support for and prioritization of meadow restoration is variable among individual forests. In

addition, staffing changes can lead to significant disruption in project timelines, based on lost capacity and expertise.

- Delays completing NEPA assessments delay other regulatory compliance. The biological and cultural resource assessments completed by the USFS for NEPA are also required for USACE to comply with Section 7 and Section 106 compliance and are frequently used for CEQA compliance. In particular, a biological assessment is usually required for the CEQA lead agency to determine whether the project fits the Section 15333 Small Habitat Restoration Projects exemption.

Potential solutions/recommendations:

- Increase USFS budget and staffing to accomplish watershed improvement even in the face of competing priorities and fires.
- Improve communication that meadow restoration is a regional priority to individual forests and districts and increase staff commitment to completing meadows projects.
- Pilot partnerships where partners and consultants complete more of the assessments needed to complete NEPA analysis to reduce the burden on USFS staff.
- Develop full project timelines that include the interconnected nature of analyses and permits early in project planning.

NEPA delays due to National Historic Preservation Act Section 106 and/or Endangered Species Act Section 7

This applies to projects on both federal and non-federal land. For projects on non-federal land, NEPA compliance occurs programmatically when USACE issues the Section 404 permit but is still subject to delays associated with Section 7 and Section 106 compliance. This issue was more commonly reported specific to Section 106 compliance. The crux of the issue is that both Section 7 and Section 106 compliance have their own review timeframes that are initiated once biological and cultural resource assessments are complete, and in the case of the Section 404, once USACE has had time to review an application. For example, the State Historic Preservation Office's (SHPO) review includes a 30-day timeline, but this timeline can be reset if SHPO determines additional information is needed to make their determination. These types of delays have caused multiple projects to miss the construction window.

Potential solutions/recommendations:

- Develop/utilize programmatic approaches for Section 7 compliance.
 - There is an existing USFWS Programmatic Biological Opinion with USFS Forest Service for the Sierra Nevada yellow-legged frog, mountain yellow-legged frog, and Yosemite toad (and their respective critical habitats). This PBO is available for restoration activities taking place on the Lassen, Plumas, Tahoe, Eldorado, Stanislaus, Sierra, Inyo, and Sequoia NFs and can streamline Section 7 compliance.
 - The Statewide Aquatic Habitat Restoration Permitting Initiative, described under "Current Initiatives" below, will develop a new programmatic Section 7 consultation for USACE Section 404 compliance. This will streamline Section 7 consultation for projects on private land, but will not streamline Section 106 compliance, which has more commonly resulted in delays.
- Practitioners discuss the project early in the planning stage with USFWS if there are special status species concerns so that designs can be informed by species considerations. This can reduce the time needed for consultation and likely result in a better project for listed species.
- Prioritize completing biological and cultural resources assessments and start Section 106 and Section 7 consultations as early as possible.
- Increase awareness of consultation timelines and build into overall project timelines.
- Discuss potential options to improve Section 106 compliance with SHPO.

CDFW: Section 1600 Lake and Streambed Alteration Agreement (LSA)

Numerous meadow restoration practitioners expressed challenges related to compliance with CDFW's Section 1600 LSA's for meadow restoration projects. Key issues include inconsistency between regional offices, especially when interpreting whether a LSA is required on federal land, and the fees associated with the LSA notification.

Inconsistency between CDFW regions and contacts, especially regarding the LSA requirement on federal land

Meadow restoration practitioners experience considerable inconsistency across CDFW regions and individual staff contacts. The most significant has been the inconsistent interpretation of when an LSA is required for projects on federal, and specifically USFS land. Per Section 1602 of the California Fish and Game Code, federal agencies are not listed as entities for which the LSA requirement applies. This is further codified by a 1995 memorandum of understanding between the USFS and CDFW that clarifies that the USFS does not need to obtain an LSA for their projects. For many years, individual CDFW offices had interpreted this to apply to USFS projects with non-federal partners. However, since the start of the Proposition 1 grants (2014), CDFW regulatory staff associated with the Watershed Restoration Grants Program have interpreted that an LSA is required when state funds are awarded to an entity other than a federal agency, triggering an LSA for federal projects funded by state funds through a non-federal partner. This has been expressed as the dominant interpretation for the agency, however, individual staff members in different regions continue to provide different interpretations. Some have indicated that an LSA is triggered only by state funds for implementation, but not planning, and some have not required an LSA if the USFS provides documentation that they are the lead project proponent (versus the non-federal partner). This inconsistency is significant because LSA fees can cost between \$700 and \$5,500 per project, creating uncertainty for grant budgets, as noted above.

In addition, meadow practitioners have experienced other inconsistencies with CDFW contacts. For example, CDFW regulatory staff can require engineered designs for projects at their discretion although this is not clearly specified as a requirement in the LSA guidance.

Potential solutions/recommendations:

- Increase top-down standardization and direction to CDFW regional staff and publish agency-wide interpretations for issues that are commonly interpreted differently by regional staff. Break down silos between CDFW regions and programs. Ensure clear direction to facilitate ecological restoration projects, not inhibit them.
- High level staff from CDFW and USFS Region 5 collaborate to determine the most correct and beneficial interpretation of when an LSA is required on USFS land with and without CDFW or other state funding. CDFW communicates this interpretation to all regional staff and publishes this information for external partners. In the absence of CDFW-USFS collaboration, CDFW at least evaluates this issue at the statewide level and communicates a consistent interpretation to regional and grant program staff.

LSA Notification Fees

As noted above, LSA fees are expensive relative to other permit fees and CDFW does not provide reduced fees for ecological restoration projects like the Water Regional Boards. In addition, LSA notification fees increase frequently, which can cause budget shortfalls for multi-year grants or when project planning is delayed.

Potential solutions/recommendations:

- CDFW follows the Regional Water Boards' example of developing reduced or waived fees for ecological restoration projects and/or grant-funded projects.

Conflicts between LSA requirements and projects

Meadow restoration practitioners have experienced scenarios where LSA requirements were not consistent with their project objectives. Also, LSAs are not conducive to unexpected adaptive management needs that may arise after the LSA has been executed, compared to other permits. Small project changes can require costly formal amendments that require time-consuming approvals. As an example, a project experienced record-setting high flows that resulted in a State of Emergency for the local county, which resulted in damage to the project. The proponents had already received one formal amendment for the project, so they were not eligible for another and were required to seek a new LSA. This created a funding gap for the cost of the new LSA and delay waiting for approval, resulting in delays of over two years for repair work and further damage to the project.

Potential solutions/recommendations:

- CDFW makes LSA guidance more consistent with the desire/need to adaptively manage ecological restoration projects by making it less difficult, time consuming and costly to make amendments to LSAs for these projects. This could include CDFW reducing or waiving fees for amendments to ecological restoration projects.

US Army Corps of Engineers: Clean Water Act Section 404

Completing CWA Section 404 compliance can be onerous due to required surveys/information, NHPA Section 106 and ESA Section 7 consultations, and varied experiences based on USACE reviewers.

Streamlined Sect 404 “reporting” only process is not applicable on public lands

There is currently a streamlined Section 404 compliance process available for projects fitting the USACE Nationwide 27 permit that meet the following criteria: a federal nexus; a “binding landowner agreement” with a federal agency; and which occur on non-federal public land or private lands. Under these circumstances there is only a requirement for “Reporting,” and proponents are not required to submit a full Pre-construction Notification. Per the Federal Register, it applies to activities in accordance with a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and USFWS, National Resources Conservation Service (NRCS), Farm Service Agency, National Marine Fisheries Service, National Ocean Service, USFS or their designated state cooperating agencies. SMP participants have worked within this process on some meadow stream restoration projects through the USFWS Partners for Fish and Wildlife Program, as well as NRCS, for projects on private lands. However, this streamlined process is not currently applicable on public lands.

Potential solutions/recommendations:

- Explore the possibility of expanding this process for use on USFS land. USFS and USACE regional staff discuss and explore feasibility at the national level.

Aquatic Resources Delineations

The Aquatic Resources Delineations required for USACE Section 404 compliance are a time consuming and sometimes costly aspect of permitting. USACE typically requires a full Aquatic Resources Delineation for meadow restoration projects to evaluate the impact of the project on wetlands for mitigation purposes, despite meadow restoration projects nearly always resulting in a net increase or enhancement of wetlands. These projects could be considered mitigation themselves and do not typically require mitigation, calling into question the need for these delineations.

Potential solutions/recommendations:

- Develop a specific Section 404 process for projects whose primary purpose is to restore and/or enhance streams and/or wetlands, which would either not require an aquatic resources delineation or require a less onerous one (e.g., using the National Wetlands Inventory or satellite imagery).

Varied experiences based on reviewer

Restoration practitioners have had mixed experiences completing Section 404 compliance based on who reviews the project, including a lack of responsiveness and/or guidance.

Potential solutions/recommendations:

- Like CDFW, increase top-down standardization and direction to regional staff and publish agency-wide interpretations for issues that are commonly interpreted differently by regional staff.
- Explore capacity constraints with USACE to understand issues and how to address them. Establish adequate capacity for USACE staff to engage in projects early to provide efficiencies in developing applications and for timely review and processing.

Section 404 delayed by NHPA Section 106 Compliance

USACE leads NEPA and therefore NHPA Section 106 and ESA Section 7 compliance for meadow restoration projects on non-federal land. When USACE is slow to process a Section 404 application and initiate Section 106 consultation it has caused significant delays due to the SHPO review timelines. For projects on federal land, if the federal lead agency does not include specific language in their SHPO/tribal consultation requests that describes covering “impacts to Waters of the US” and that a “Section 404 permit will be obtained,” there is the potential that USACE may have to do their own separate consultations prior to issuing the Section 404, resulting in delays.

Potential solutions/recommendations:

- The same as described above for NEPA when USACE is the lead.
- An additional potential solution is to develop a best practice for the USFS to include language in the submittals for Section 7 and Section 106 consultations that requests coverage for impacts to Waters to the United States and that a Section 404 permit will be obtained, to avoid the need for USACE to do their own consultations.

State Water Resources Control Board & Regional Water Quality Control Boards: Clean Water Act Section 401 & Construction General Permit

The most significant hurdles for meadow restoration projects related to the Section 401 and NPDES CGP are the need for a CGP in addition to Section 404/401 certification and navigating compliance with basin water quality objectives. In addition, the State Water Board adopted new procedures and guidance for completing Section 401 certifications in April 2020, so practitioners are navigating a new process for Section 401 compliance. However, these new procedures are still in flux due to litigation.

CGP permit required in addition to Section 401

Determining the need for a CGP permit in addition to a Section 401 permit induces considerable uncertainty, and is inconsistently interpreted among Regional Water Board regions, offices, and reviewers. The Section 401/404 and CGP permits provide very similar water quality protections, although the CGP pertains to disturbance in upland project areas in addition to Waters of the U.S./State. The requirements of the CGP are extremely duplicative where a Section 401 water quality certification is already being issued for an aquatic restoration project. Thus, the need to acquire both seems duplicative. Through discussions with the Central Valley Regional Water Quality Control Board, veteran meadow practitioners established that if all project components, including upland activities (e.g., access routes, staging areas, etc.) are included in the Area of Potential Effects (APE) for Section 404/401 compliance, then the Section 401 provides water quality protections for all project activities, obviating the need for a separate CGP permit. However, this interpretation has not been universally accepted, creating uncertainty. The CGP permit triggers the need for a Stormwater Pollution Prevention Plan (SWPPP), which requires hiring a Qualified SWPPP Developer and typically costs approximately

\$5000-\$6000 dollars. This also triggers the need for a Qualified SWPPP Practitioner to implement the SWPPP during construction, further adding to project costs and complexity.

Potential solutions/recommendations:

- The State Water Board and Regional Water Boards evaluate the issue and publish guidance removing the need for a CGP when all project activities are covered by the Section 401 certification for ecological restoration projects.
- The State Water Board should address this issue programmatically for projects gaining coverage under the statewide General Order for large habitat restoration projects, with its programmatic Section 401 compliance, so that it will not need to be addressed on an individual basis. Preferably, establish that an CGP is not needed for these projects, or at least establish a coordinated process to avoid duplicative effort/submittals.

Compliance with basin water quality objectives/prohibitions under Section 401

The Regional Water Boards must comply with basin water quality objectives and prohibitions included in region-specific Basin Plans. These often set such low turbidity thresholds that it is nearly impossible to implement restoration activities without exceeding them. The Regional Water Boards must then seek approval to exceed these thresholds which adds another permitting hurdle to an already cumbersome process.

Potential solutions/recommendations:

- Develop more feasible and attainable turbidity thresholds related to restoration projects in Basin Plans, reducing the need to seek exceedance approvals. If not feasibly due to compliance with other programs/requirements, develop amendments to Basin Plans to create an expedited exemption processes for restoration projects that result in only limited, short-term exceedances

Section 401 General Water Quality Certification for Small Habitat Restoration (SHRP) underutilized due to 500 linear feet of stream bank requirement

The State Board developed a simplified Section 401 process for small habitat restoration projects that meet the conditions of the CEQA Exemption 15333 described above, however it further restricts eligible projects to 500 linear feet of stream bank. This further restriction has excluded many meadow restoration projects that meet the exemption criteria from using this simplified process.

Potential solutions/recommendations:

- The State Water Board's new General Order (described below) will address this by providing a streamlined pathway for larger restoration projects that do not meet this criterion.
- In addition, the Cutting Green Tape initiative (also described below) proposed a recommendation to remove the 500-foot linear limit and in the State Water Board's upcoming SHRP renewal (originally planned for 2020). These efforts should address this issue.

New State Water Board Procedures introduce new requirements

In April 2020, the State Water Board adopted the new State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, which established new procedures for Section 401 compliance. The new process establishes a single application across all regions, which will improve consistency. However, the new process also introduces new additional items (especially additional plans) that can be required on a case-by-case basis, some specific to Ecological Restoration and Enhancement Projects (as defined by the procedures). Development and multiple reviews of additional items is onerous and can result in delay of project times. This trend toward additional requirements, especially specific to ecological restoration and enhancement projects, is counter to streamlining permitting for ecological benefit.

Potential solutions/recommendations:

- The State Water Board’s new General Order aims to streamline the overall Section 401 process for large habitat restoration projects. Consider the time and capacity burden to develop, undergo multiple reviews and report on additional items under the Order and to aim to reduce this burden to the extent practical by restricting the number of items and/or providing sideboards for agency review.
- If the additional requirements for restoration projects persist, provide templates or examples of supplemental materials, and reduce subjectivity related to when materials will be required.

CDFW: Beaver Translocation

Beaver dams impound water and retain sediment. This raises the local water table and reconnects streamflow with the floodplain, which are often primary objectives for meadow restoration projects where channel incision has occurred. Beaver therefore present an important, potentially cost-effective meadow restoration tool, however beaver were nearly extirpated throughout California in the early 1900s and their reintroduction has been limited by complicated policies and old science, with the result that they only occur in approximately 15-20 watersheds in the Sierra.

CDFW manages beaver in California. After protecting beaver to allow them to rebound after near extirpation, management was revised in 1930 to allow depredation when they created a threat to property and this law persists today (Lundquist and Dolman 2016). Current codes allow for the depredation of nuisance beavers upon application for a permit and do not allow possession, transport, or release of beaver by anyone other than CDFW due to their classification as a “detrimental species.” Because of this designation, under FGC section 2150, special permits cannot be issued for the possession, import or transport of beavers. In addition, beaver were believed not to be native to the higher elevations and the eastern slope of the Sierra until 2012, when researchers presented novel evidence about the more widespread occurrence of beaver throughout the Sierra (James and Lanman, 2012; Lanman et al., 2012). The combination of these factors has resulted in a lack of momentum to reintroduce beaver in the Sierra, despite the potential restoration benefits. The new paradigm that beaver are native to most of the Sierra has been slow to permeate regulatory culture. In addition, only CDFW is currently allowed to relocate beaver and they have shown a lack of will to engage compared to other states like Oregon and Washington that now support robust beaver reintroduction programs.

Potential solutions/recommendations:

- CDFW should engage more with the California Beaver Working Group to develop a beaver management strategy modeled on successful approaches in Washington and Oregon that allows for the translocation of beaver in the Sierra Nevada. Washington passed a State Beaver Bill that allows entities other than the state to possess and transport beaver and Oregon’s Department of Fish and Wildlife has developed beaver restoration guidelines.
- Develop beaver relocation/allocation programs with tribes for holistic restoration including cultural values.

Current Initiatives for Addressing Regulatory Challenges

Here we describe current statewide initiatives that aim to address regulatory challenges for restoration projects and their applicability for meadow restoration projects.

Statewide Aquatic Habitat Restoration Permitting Initiative

Sustainable Conservation is currently leading a collaborative initiative to develop coordinated simplified permits across the state for a common set of environmentally beneficial aquatic and riparian habitat restoration project types and related environmental protection measures (Sustainable Conservation Factsheet). They are partnering with USACE, National Oceanic and Atmospheric Administration (NOAA) Restoration Center, USFWS and the State Water Board. The intended outcomes are two-fold: 1) development of a statewide Section 401 General Water Quality Certification/Waste Discharge Requirements (WDR) and associated programmatic EIR (PEIR) for CEQA, and 2) statewide Section 7 consultation from USFWS for USACE Section 404 compliance. These authorizations will complement existing programmatic restoration biological opinions (BO) with NOAA/National Marine Fisheries Service (NMFS).

General Order for Clean Water Act Section 401 Water Quality Certification and WDR for Restoration Projects Statewide (General Order)

The intent of developing a statewide Section 401 General Water Quality Certification/Waste Discharge Requirements is to provide a general order for restoration projects that fall outside the project size limits of the existing General Water Quality Certification for small habitat restoration projects (described above). It will provide programmatic coverage, improving efficiency compared to the current need for each project to seek individual permits. The General Order is based on commonly implemented restoration types occurring throughout the state based on the NOAA model. American Rivers worked with Sustainable Conservation to ensure that common meadow restoration techniques will be included. Restoration types relevant to meadow restoration include:

- Floodplain Restoration
- Establishment, Restoration, and Enhancement of Tidal, Subtidal, and Freshwater Wetlands
- Stream and Riparian Habitat Establishment, Restoration, and Enhancement
- Bioengineered Bank Stabilization
- Removal of Nonnative Terrestrial and Aquatic Invasive Species and Revegetation with Native Plants
- Improvements to Stream Crossings and Fish Passage

The General Order is anticipated to provide significant efficiency obtaining Section 401 certification and WDRs, especially in terms of the Regional Water Board's review and processing times. The General Order is still in development and subject to change but will hopefully be approved in 2021.

Programmatic CEQA compliance

In addition, developing this programmatic General Order will require developing a PEIR for CEQA that will include analysis of the restoration techniques included. This will result in a PEIR available to restoration proponents under the General Order. Thus, for projects that fit the project types included under the programmatic General Order that incorporate specified protection measures (as applicable) or other criteria into their project descriptions to qualify within the scope of the proposed General Order, CEQA can be completed programmatically. However, the CEQA lead agency will determine on an individual basis whether proposed impacts are appropriately addressed in the PEIR, or whether additional focused analysis for impacts not addressed or an additional document, such as a Mitigated Negative Declaration, is required. Despite this caveat, the option for projects under the General Order to utilize this programmatic CEQA approach could be a game changer for determining the CEQA lead agency and completing CEQA in a timely manner for meadow restoration projects.

Although the CGP/SWPPP is a separate authorization, and will not be included in the Order, Sustainable Conservation is aware of the overlap with Section 401 compliance and have brought this issue to the attention of the State Board to consider consolidating/simplifying these processes to remove duplication of effort.

Statewide Section 7 consultation from USFWS for USACE Section 404 compliance

To develop statewide Section 7 consultation from USFWS for USACE Section 404 compliance, Sustainable Conservation and partners are concurrently in the process of developing a statewide programmatic biological assessment (BA) and BO that include the most common federally listed species relevant to aquatic and riparian habitat restoration projects throughout the state, including the Sierra Nevada. It is based on the same project types and common general protection measures as the existing NOAA Restoration BOs and State Water Board General Order underway. This programmatic Section 7 consultation is anticipated to streamline the project-level consultation process as part of Section 404 compliance, especially on private land where USACE is the NEPA lead agency. Sustainable Conservation and partners are also coordinating with CDFW throughout this process in hopes of facilitating a consistency determination for species listed by both the federal ESA and the CESA if feasible. The estimated timeline for completion is 2021.

In addition, CDFW should develop a programmatic process for restoration projects outside the Habitat Restoration and Enhancement Action (HREA) to compliment the State Water Board, USFWS, NOAA programmatic approaches in development. Currently the HREA provides a programmatic approach to permitting with CDFW (i.e. the LSA) for projects meeting the same criteria as the State Water Board's General Water Quality Certification for Small Habitat Restoration Projects (less than 5 acres and 500 linear feet).

CDFW Restoration Leaders Committee (RLC)

In 2018, CDFW began convening a group of restoration and conservation practitioners, including American Rivers, and CDFW staff focused on improving CDFW's grant making processes that eventually became known as the Restoration Leaders Committee (RLC). Between 2018 and 2020 the RLC worked to develop a set of recommendations for improvements to CDFW's grant-making processes. These included a recommendation for CDFW to facilitate CEQA compliance for grant-funded projects and recommendations related to reforming CDFW's engineering review processes.

Specific to regulatory compliance, the RLC recommended that CDFW "facilitate CEQA compliance for CDFW-funded projects to the maximum extent legally and financially possible" (Restoration Leaders Committee, 2019). Specifically, the RLC recommended that CDFW should further evaluate each of the following approaches for providing CEQA compliance for funded restoration projects:

- Develop a programmatic Environmental Impact Report (EIR) for all restoration grant programs or a subset of programs (e.g. that apply to salmonid restoration, meadows or others).
- Develop programmatic Mitigated Negative Declaration (MND) approaches for specific project types such as meadow restoration or salmonid projects. This could involve issuing one MND for a suite of similar projects in each round.
- Agree to serve as the CEQA lead for individual projects funded under CDFW grant programs beyond the Fisheries Restoration Grants Program (where CDFW already leads CEQA). This should include evaluating CDFW's responsibility for authorizing/implementing projects relative to other state agencies and working with these agencies to identify a clear CEQA pathway for grant-funded projects.
- Adopt a strategy for developing CEQA documents in which the grantee prepares the studies and drafts CEQA documents and then CDFW provides review and approval, like the Regional Water Boards typically comply with CEQA.
- Enact policy changes to allow grant program funds to be used for CDFW staff time to complete CEQA documents.

CDFW has committed to addressing this recommendation. They have begun investigating options internally and initially proposed a pilot to create programmatic CEQA coverage for aspects of Proposition 1/68 funding. However, now that Sustainable Conservation and the State Water Board are developing the programmatic

General Order and associated PEIR, CDFW is looking to this process to address this issue. Sustainable Conservation, the State Water Board and CDFW are engaging so that hopefully the resulting PEIR can be used as much as possible for projects where CDFW has a CEQA nexus.

Cutting Green Tape Initiative

California Secretary for Natural Resources Wade Crowfoot and others launched the Cutting Green Tape initiative in December 2019. The California Landscape Stewardship Network is helping to steward this effort. It aims to improve state agency permitting and funding efficiencies for ecological restoration and natural resources stewardship. The group is composed of over 150 regulatory agency staff, local governments, NGOs, landowners, tribes and other stakeholders. This initiative shows promise for initiating efforts toward large-scale state regulatory improvements. The initiative developed a final report in Fall 2020 (Cutting Green Tape Initiative, 2020) that includes a set of recommendations to increase efficiencies in permitting restoration. Several of the recommendations would directly address the regulatory challenges for meadow restoration projects described above. These include:

- Recommendation 1: Clarify the eligibility of projects that qualify for the CEQA Class 33 categorical exemption.
- Recommendation 2: Change the CEQA Class 33 categorical exemption eligibility to include larger terrestrial and upland restoration projects.
- Recommendation 3: Amend the 401 General Water Quality Certification Order for Small Habitat Restoration Projects (SHRP) to (a) be consistent with Class 33 CEQA size limits and (b) include “Waters of the State.”
- Recommendation 6: Develop the 401 General Order and Waste Discharge Requirement (General Order) for aquatic restoration projects and certify the associated Programmatic Environmental Impact Report (PEIR).
- Recommendation 7: Create companion efficiencies in the Fish and Game Code to the General Order for aquatic restoration for larger-scale projects.
- Recommendation 10: Develop a CEQA-equivalent certified regulatory program for landscape-scale restoration
- Recommendation 14: Create a unified online permit application for state agencies that simplifies submittal and tracking for both agency staff and applicants and supports interagency coordination.

This effort is significant for its demonstration of a top-down desire to improve regulatory processes to expedite restoration and conservation. However, putting these identified potential actions into practice will take significant time and effort and some may turn out to be infeasible based on existing law.

Conclusions and Recommended Next Steps

In many ways the time is right for meadow restoration to scale up to achieve landscape-level benefits, due to collaboration and momentum of the Sierra Meadows partnership and the prioritization of meadow restoration by state and federal agencies. However, regulatory processes continue to be a bottleneck limiting the pace and scale of restoration. Here we have described the more significant and common regulatory challenges meadow restoration projects face to illuminate the actions needed to address them. We have also presented current initiatives attempting to address persistent regulatory challenges at the state level.

Evaluating this information in tandem has shown the meadow restoration regulatory challenges that these efforts will likely address and those they will not. This process has also illuminated a suite of best practices meadow restoration practitioners can implement now to improve efficiency completing permits and environmental compliance. Thus, our overarching recommended next steps are:

- 1) to support these existing initiatives to ensure their success and that they benefit meadow restoration projects;

- 2) to develop strategies and pursue potential solutions to address the challenges that are more specific to meadow restoration and are not addressed by these initiatives; and
- 3) to develop guidance about regulatory best practices for meadow restoration practitioners and disseminate to SMP meadow restoration practitioners.

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