Scope of Work Guidance

For Managing Compatible Vegetation for Targeted Species and Biodiversity

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Utility Arborist Association
Environmental Stewardship Committee

Scope of Work Guidance: Managing Compatible Vegetation for Targeted Species and Biodiversity

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Purpose

The purpose of this document is to provide a template for developing scope of work (SOW) statements when transitioning rights-of-way (ROWs) from management focused on controlling incompatible vegetation to management focused on promoting compatible vegetation for objectives addressing biodiversity and target species. A properly designed and executed scope of work between vegetation managers and staff and contractors is essential to setting expectations and achieving both short-term and long-term vegetation goals. Long-term monitoring programs that track clearly defined metrics provide consistency when integrating on-the-ground management and sector-level environmental social and governance (ESG) reporting, developing productive contractor relationships, and cultivating a stewardship-focused Integrated Vegetation Management (IVM) culture.

This document's scope of work guidelines are generic and should be customized to meet the needs of the program they are being applied to. For large, homogenous land cover types that utilize a system-wide approach, a single scope of work document may be adequate. More complex and mosaicked landscapes are likely better served by multiple scoping exercises. Pilot and site-specific projects aimed at measured enhancement and/or integrity goals will require dedicated scope of work documents that are actionable and specific to target compatible species and biodiversity objectives.

Compatible Vegetation Scope of Work Components

When you are working with staff and contractors to achieve vegetation goals, a well-designed scope of work is required to achieve effective treatments. The scope of work should document existing conditions, articulate the goals being measured, and set forth actionable Integrated Vegetation Management (IVM) Best Management Practices (BMPs) to accomplish those objectives. To align with the IVM BMP companion on managing compatible vegetation, goals can be protection, enhancement, or integrity focused. Protection-based goals preserve existing compatible vegetation. Enhancement-based goals aim to protect, propagate, and improve compatible species. Integrity-based goals deliver the underlying conditions, processes, or resilience needed to support desired compatible vegetation. Consideration and implementation of the long-term guidelines will enable adaptive management to more fully capture benefits related to compatible biodiversity and ecosystem resilience.

The included template provides a general outline of an example scope of work. Creating short-term guidelines will ensure that your scope of work is specific and actionable to the stated goals and objectives, accurately tied to your existing site's conditions, equipped with qualified contractors to execute the work delivery, and designed to document desired success or hold actors accountable to ensuring that goals and objectives are ultimately realized.

Success metrics can be qualitative or quantitative. Quantitative measures are aspects of your project that have clear parameters (metrics) to assess success. Qualitative measures are broader in the sense that success is assessed based on external or subjective factors. We encourage you to develop your own measurements of success because each site, work plan, and desired outcome is unique.

SOW Component & Description	Protection-Focused Considerations	Enhancement-Focused Considerations	Integrity-Focused Considerations
Purpose Statement Introduction to scope document highlighting the vision and intended outcome of the contracted work.	Describe the purpose of the scope of work being requested. Consider how the requested scope aligns with the protection, enhancement, or integrity focus, and communicate the importance of the scope in achieving those purposes.		
Scope Description A narrative summary of the scope of work, including important details to highlight in areas of expectations, risk, or uncertainty.	Summarize the scope of work being requested and highlight pertinent details such as a summary of quantities, time frame expected, important constraints, performance expectations, and areas of risk or uncertainty that are important to document and convey to the contractor.		

SOW Component & Description	Protection-Focused Considerations	Enhancement-Focused Considerations	Integrity-Focused Considerations
Expected Outcomes or Deliverables What you expect from contractors at sites where you decide to focus on compatible species or habitat, including quantitative and qualitative measurements of success.	Outcomes are focused on preserving existing compatible vegetation.	In addition to protection, the outcome includes propagation or encouragement of species composition and structure toward a specified target.	Outcomes that deliver the underlying conditions, processes, or resilience needed to support desired compatible vegetation.
Performance Standards The expected key performance indicators' measures of success, or qualitative standards used to evaluate the work performance.	Quantify metrics that can be used to evaluate the expected outcomes of the protection scope.	Quantify vegetation composition and structure metrics that help you evaluate the expected outcomes specific to species targets or biodiversity outcomes.	Quantify site condition, disturbance frequency, or other ecosystem function metrics that reflect the scope of performance relative to the expected integrity outcomes.
Quality Control Procedures When, how, and which methods are used to evaluate the performance standards and deliverables.	Define the timing and protocols used to evaluate adherence to protection specifications. May include work audits, permit inspections, or other compliance reviews.	Define the timing and protocols used to evaluate adherence to enhancement specifications. Timing may include post-treatment monitoring to inform adaptive management needed to achieve targets.	Define the timing and protocols used to evaluate adherence to integrity specifications. May be similar to protection methods or include specialized inspection by a biologist or ecologist. Long-term monitoring may be needed to inform adaptive management.
Qualifications Any specific certifications, training, experience, or other qualities necessary to perform the work.	Ensure contractors complete required environmental and cultural protection training prior to commencing work. May include personnel or partnerships trained in basic plant identification.	Personnel trained in identifying target species and conditions specified in the expected outcomes, and conducting work required to achieve the performance standards and work specifications. May include personnel or partnerships trained in botany, wildlife biology, or ecology.	Personnel trained in identifying target species and conditions specified in the expected outcomes and conducting work required to achieve the performance standards and work specifications. May include personnel or partnership trained in ecological function or other areas of specialization.

SOW Component & Description	Protection-Focused Considerations	Enhancement-Focused Considerations	Integrity-Focused Considerations
Special Provisions Optional section to highlight special conditions, requirements, or associated standards.	Identify and communicate requirements for resource avoidance and protection. May often include cultural resources or endangered species avoidance measures.	Special considerations to be made when undertaking enhancement activities related to optimal timing, landowner coordination, or specific delivery of scope.	Special considerations for sustaining integrity related to optimal timing, landowner coordination, or specific delivery of scope.

Compatible Vegetation Scope of Work Timelines

When you are managing for compatible vegetation, the timelines for success may be either short or long term. These time scales should be kept in mind when creating your compatible vegetation management scope document. It is important to have clear expectations for what can be achieved in one year versus over 5, 10, 20, or more years.

An effective scope of work will reflect the current timeline of right-of-way maintenance and set a work plan for the next IVM cycle. The examples provided on the following pages are intended to be used in conjunction with the previous table. Together, they provide a template that can guide preparation of a compatible vegetation scope of work.

Example Short-Term (Years 1–5) Scope of Work Components

SOW Component	*Determine ROW condition, establish vegetation baselines, and provide training*
Purpose	**Determine ROW condition(s) (mainly qualitative) and short-term course of action** ● Reclamation ● Repeated treatment cycle (mowing only) ● Maintenance stage with no enhancement of species composition ● Maintenance stage with a protection approach (See UAA publication, "Managing compatible vegetation for targeted species and biodiversity," Table 1) ● Ready for enhancements (See UAA publication, "Managing compatible vegetation for targeted species and biodiversity," Table 1) ● Ready to manage for integrity (See UAA publication, "Managing compatible vegetation for targeted species and biodiversity," Table 1)
Scope Description	**Decide whether to take a systemwide or a pilot-project approach (mainly qualitative) so that the scale of compatible vegetation focus is manageable** ● A systemwide approach is most suitable when moving from a reclamation or repeated treatment cycle to a maintenance stage (mainly protection-focused IVM). ● A pilot project, consisting of a small number of suitable ROWS, can be a good way to get started managing sites with a habitat focus. Start small and make specific scope of work statements for these sites (moving toward enhancement- and integrity-focused IVM). **Map ROW land cover types (mainly quantitative) to determine possible habitat types within ROW** ● Mapping actual existing land cover types of the ROW lays the foundation for creating a vegetation baseline (see UAA publication, "Managing compatible vegetation for targeted species and biodiversity," Table 3, which provides a rough overview of early successional land cover types commonly found within ROWs). Each land cover type has expected wildlife, plant species, and species of concern. ● Desktop exercise: By understanding which bioregion your system is in, you can use mapping databases to determine which ecoregions sites exist within your ROW's footprint (ecoregions define the ecosystems that weave the bioregions together). Within a particular ecoregion, various habitat types or landscape cover types can be expected. The EPA has mapped various ecoregions to different levels of detail. Knowing your ROW's ecoregions can help to break up a ROW network into manageable sections. Ecoregions are outlined within each state (see Level III and IV Ecoregions by State, US EPA, https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-state).
Expected Outcomes or Deliverables	**Establish vegetation baselines per land cover type (mainly quantitative) to anchor future monitoring of project success and inform adaptive management** ● To manage for plant species composition changes over time, establishing a vegetation composition baseline is required. This can be done in a variety of ways: ○ Take vegetation samples per land cover type. ○ Map plant categories (incompatible—e.g., large woody species, and compatible vegetation such as grasses, herbaceous, shrubs, and small trees). ○ Map plant species compositions (detailed) and species of interest counts (milkweed, endangered species, etc.).

SOW Component	*Determine ROW condition, establish vegetation baselines, and provide training*
Performance Standards	**Create short-term goals (both qualitative and quantitative) to set a precedent for stewardship and set SMART goals to encourage awareness** ● Short-term qualitative goals: Create goals related to management practices for incompatible and compatible species, as well as IVM training program(s) for internal personnel and hired contractors. ● Short-term quantitative goals: Create goals for each quantitative measurement of success. Make sure these goals are SMART (Specific, Measurable, Achievable, Realistic, and Time-specific).
Quality-Control Procedures	**Establish a process for auditing and ensuring quality control** ● Inspections should follow completed work to verify accuracy and quality of work performed. ● Consider important milestones to orient quality-control inspections to ensure management trajectory is consistent with systemwide or pilot project objectives. ● Give vegetation maintenance crews the chance to return and observe the benefits of compatible habitat, which can serve as a positive example for future quality control.
Qualifications	**Qualifications and training (both qualitative and quantitative)** Basic plant ID is required to protect and enhance vegetation. Further training builds awareness to foster stewardship and provides tools to refine treatments over time. ● Provide plant ID training to vegetation management (VM) crews, contractors, and internal personnel (protection IVM focus): ○ Providing basic plant ID training for incompatible, as well as compatible, plants will allow for improved IVM practices. ○ Environmental and cultural protection training will ensure alignment with company practices. ● Provide ecology and stewardship training to VM crews, contractors, and internal personnel (enhancement IVM focus): ○ Creating awareness about land cover types as well as plant species compositions (grasses, herbaceous, small shrubs, etc.) will allow for an increased focus on stewardship practices. ○ Providing training on the negative effects of off-target areas will minimize unintended damage to compatible species. ○ In addition to target removals of incompatible plants, protection, propagation, and enhancements of compatible plants can occur. Increased plant ID knowledge of both incompatible and compatible plants allows for actively tracking plant species composition changes over time. ○ Providing information about IVM building blocks will enhance sequencing and specific timing of treatment methods (see UAA publication, "Managing compatible vegetation for targeted species and biodiversity," Appendix B, for compatible BMPs). ● Provide IVM training to VM crews, contractors, and internal personnel and establish partnerships with local ecology specialists (integrity focus): ○ This can result in increased refined application of treatment methods over time.
Special Provisions	Work with stakeholders and partners to determine any other provisions that must be accounted for in your scope of work.

Example Long-Term (Years 5–15) Scope of Work Components

SOW Component	*Create monitoring program(s), implement adaptive management, and align ESG with upper management and contractors*
Purpose	**Demonstrate a stewardship-focused IVM culture (mainly qualitative) to cultivate a shift from a percent kill focus to a species composition focus** ● Take steps to cultivate a stewardship culture within your organization. Commit to pursuing a higher degree of sensitivity to habitat needs and local conservation concerns within your management system. ● Develop a language within management that fosters a stewardship focus. Internal training programs and clear objectives for sites will help this language develop.
Scope Description	**Incorporate compatible species management components in contractor specifications and contracts (both qualitative and quantitative) to move from a one-treatment-fits-all approach to a more refined IVM program** ● Communicate clearly what you expect from contractors at sites where you decide to focus on compatible species or habitat. ● Include quantitative and qualitative measurements of success. ● Stress the importance of protection, propagation, and enhancement of compatible species—i.e., limitation of overspray and an increased focus on selective BMPs. ● Continue to provide IVM, plant ID, and ecology and stewardship training to contractors. Given the tools to perform, contractors are more likely to become good partners in complex projects with aligned values and goals.
Expected Outcomes or Deliverables	**Create achievable long-term biodiversity metrics (plant species composition changes; mainly quantitative) to focus on key features and their attributes for habitat goals** ● Determine and refine which biodiversity measurements are important for monitoring your success with stated habitat goals. As an example, for pollinator pathways, a diversity of flowering plants may be a key feature that provides a foraging source throughout the year. This might include a mixture of annuals and perennials to fill in seasonal gaps. Or, for specific wildlife, biodiversity metrics might focus on structural attributes to provide shelter and nesting materials in addition to a diversity of foraging plants. ● Quantitative metrics are important for specific outcomes. However, qualitative metrics are harder to measure. Focus on assessing impacts of treatments over time, and do not just focus on predicted outcomes. ● Based on stated objectives, determine key features, their attributes, and targets for each attribute. Key features are the important aspects to monitor for your stated objectives. Examples include the presence of threatened, endangered, or other ecologically important species; vegetation structure; and land cover composition. Attributes describe the condition of key features, such as distribution, abundance, and reproductive success over time, and variation with successive treatments. Understanding key features and their attributes can help you set measurable targets. ● Create SMART targets to meet objectives: Specific, Measurable, Achievable, Realistic, and Time-specific. ● Use the short-term baselines established for each plot to determine which characteristics to pay attention to over time. For instance, specific metrics might be surveys of species of interest or percent cover of plant groups (grasses, forbs, shrubs, or trees). ● Tailor metrics to project goals: wildlife habitat/populations, percent cover, specific species of importance, or habitat type that supports many species.

SOW Component	*Create monitoring program(s), implement adaptive management, and align ESG with upper management and contractors*
	Develop long-term monitoring metrics for compatible vegetation composition (mainly quantitative) to inform adaptive management by understanding habitat response to treatments ● Vegetation change is a long-term event. Overall composition may take 10 to 20 years to transition. ● Focus on preserving existing diversity in the process of vegetation change. Put protection mechanisms in place for compatible vegetation that is already present. ● Consider the quality of overall impacts from management activities over the long term. How does the abundance, variation, and distribution of compatible species change over time? How does wildlife presence change with vegetation shifts? ● Implement adaptive management as needed to encourage compatible vegetation composition. This requires establishment of a pre-project baseline, initiation of (short-term) project monitoring, and continuous assessment for the lifetime of the project. ● Select refined BMP treatments to exert a certain pressure that influences vegetation composition. Continued monitoring illuminates the response to this pressure. ● Refer to the measurement of success data to inform continued maintenance decisions. If certain key attributes are responding unfavorably to selected management decisions, seek to understand the reasons and adjust the BMP selection, timing, or intensity to influence future responses. ● Monitor sites at least every 5 years for a clear picture of composition change.
Performance Standards	**Develop ESG reporting strategies (both qualitative and quantitative) to communicate progress with share- and stakeholders** ● Communicate with share- and stakeholders your ESG contribution within the ESG indices frameworks. ● Adopt strong measurements of success, both quantitative and qualitative, to form the framework for ESG reporting—providing investors, community stakeholders, and employees with the details of your commitment to land stewardship.
Quality Control Procedures	**Align utility and contractor ESG reporting (both qualitative and quantitative) to develop a commitment to shared objectives** ● Encourage a stewardship culture within contractor relationships. Set stewardship goals and take time to communicate the importance of this focus with contractors. ● Provide detailed information about biodiversity objectives in the scope of work for contractors. Describe which key features and attributes you will be monitoring. Communicating these details can help contractors understand the aspects they should be considering during management activities. ● Develop shared objectives for each project to help integrate the parameters for ESG reporting between managers and contractors.

SOW Component	*Create monitoring program(s), implement adaptive management, and align ESG with upper management and contractors*
Qualifications	**Monitor and acknowledge contractors' contribution to achieving long-term VM goals (both qualitative and quantitative) to foster long-term mutual relationships with contractors** ● Monitor post-treatment to see what has happened at a site and to build understanding between contractors and management. ● Monitor to see that contractors sustain compatible species and cover types. Seek limitations on overspray, look for increased selectiveness in treatment limitations on unwanted seed bank transport to sites. ● Provide ongoing training and establish a contractor ranking system to cultivate long-term contractor relationships. These relationships are integral to long-term project success. *As projects mature into a focus of enhancement and integrity management of vegetation, acknowledgment of contractor contribution can evolve to reflect this mutual commitment.*
Special Provisions	**Develop partnerships with local conservation groups, Tribal committees, and neighboring communities (mainly qualitative) to help strengthen and meet ecoregion-level project goals** ● Partnerships for specific stewardship goals lend a lot of support for projects, both in streamlining direction and in financial or labor participation. ● These relationships can increase awareness of local habitat issues, which can help with setting better objectives over time.