

**\*\*NOTE TO PREPARER: Every project is different and has differing levels of complexity; therefore each habitat replacement plan will vary accordingly.** However, all habitat replacement plans should follow a summary format that is concise and easy to follow. Use tables and/or separate headings as much as possible. All maps, drawings, and assessment worksheets should be included within the plan as a single document. Drafts of the report should be presented to Reclamation in a Microsoft Word format to facilitate review. A final draft of the report should be presented to Reclamation as a pdf.\*\*

## Title Page

# Insert Name of Habitat Replacement Plan

For Name of Irrigation Project (include corporate agreement # for project)

(If desired, a picture of the project area can be inserted)

Date of plan

Prepared by:

Contractor Contact info

Prepared for:

Irrigation Company Contact info

Certification and Approval of (Insert Name of Habitat Replacement Plan)

Approvals		
Action	Signature & Title	Date
Prepared By: (contractor)		
Submitted By: (Irrigation Company)		
Reviewed By: (Reclamation)		
Approved By: (Reclamation)		

Scheduled completion date of construction is \_\_\_\_\_.

This habitat replacement project will be maintained to achieve the objectives of this plan for \_\_\_\_ years from approval of this Plan.

Disclaimer: This habitat replacement project is projected to create \_\_\_\_ habitat units. This scoring is an estimated projection, and is not a guarantee or a statement of habitat units available to [the irrigation company]. These units are estimated to be \_\_\_\_ once the habitat project has reached its full potential, which can take multiple years depending on project objectives. Excess habitat units which may be created by this habitat project are only available for use by future salinity control projects once those units are actually realized.

## Table of Contents

The table of contents should be located on a separate page.

## Introduction and Background

Why is this replacement plan occurring? Which irrigation project and habitat loss report is this habitat replacement plan tied to? Provide a summary of what habitat loss occurred/will occur with the implementation of the irrigation project and how implementing this plan will compensate for those losses. Explain where this site is located and why this site was selected. Provide a map with location and directions to the site.

## Existing Conditions

What does the area look like, right now? Tie the existing conditions back to the *Basinwide Salinity Control Program: Procedures for Habitat Replacement* (March 2013) (“evaluation criteria”) with detailed justification for the rankings as they relate to importance to wildlife/wildlife habitat. Explain using ecological characteristics. What is present and what is missing? The rationale is the backbone on which the entire plan is supported.

- Habitat Type and Wildlife Use
  - What habitat type - should be riparian/wetland, but maybe the project area contains a mixture.
  - Uniqueness/Abundance: explain what wildlife use the area and what wildlife habitat is present. Is it federally designated critical habitat? Mule deer severe or critical winter range? Elk calving area?
  - Connectivity and Alteration: Explain if the area is a connecting corridor between habitats? Is the area fragmented? Is human disturbance prevalent? Look at the project from a larger scale.
- Plant community/Vegetation: Explain what’s there now and how it lacks or provides value to wildlife/wildlife habitat (forage, cover/shelter, etc).
  - Vegetative diversity - species composition, warm/cool season grasses, forbs, shrubs, trees.
  - Stratification - what layers are present
  - Native vs. nonnative
  - Noxious weeds
  - Overall Vegetative Condition/Health
- Hydrology:
  - Water supply - what water sources are currently available in the area (beyond the project boundary)? Are they clean sources of water (selenium issues)? Results of water quality analyses? Is water available year round? What is the assurance of the water source?
  - Interspersion of open water with vegetation
- Topography & Soils: This is especially important if water developments are planned.

- Provide a summary table of the evaluation criteria rankings with rationale. This could be in an appendix, but the Habitat Quality Score (HQS) should be included in this section.
- Explain methods used to collect data for the evaluation criteria.
- Provide map and pictures of the area.
  - “Before” photographs and a map indicating photo locations and the direction the photographer was facing.
  - Include UTM’s and/or lat and long of photo and data collection points.

## Desired Conditions

The project goals and objectives are discussed in this section. Clearly define the objectives of the project (e.g., This habitat project has three main objectives: 1) xxx 2) xxx 3) xxx, etc.). What should the area look like when the project is complete? How long is it expected to take to get to the desired condition? Tie the desired conditions back to the evaluation criteria and the value/importance to wildlife/wildlife habitat. Tie the desired conditions back to the habitat which is expected to be lost by implementing the salinity control project.

- Habitat Type and Wildlife Use
  - What habitat type: after project construction, will the habitat change at all?
  - Uniqueness/Abundance: after project construction, is the habitat use expected to change? Will the area provide or improve value to wildlife that it wouldn’t have provided before the project was implemented?
  - Connectivity and Alteration: Is the area expected to provide a corridor between two un-conjoined habitat areas? Does the project rehabilitate land with degraded habitat due to human activity? Is the habitat project contained within an existing habitat area, and if so, what habitat values will the habitat project provide which are not currently existing?
- Plant community/Vegetation: Explain what’s expected to be there and how will it provide value to wildlife/wildlife habitat (forage, cover/shelter, etc.).
  - Vegetative diversity-species composition, warm/cool season grasses, forbs, shrubs, trees.
  - Stratification-what layers are present
  - Native vs. nonnative
  - Noxious weeds
  - Overall Vegetative Condition/Health
- Hydrology:
  - Water supply - Will water supply change? Is there an assurance where one wasn’t before? Will it be available longer than what it was? Does the project rely on water rights, and if so, how senior/junior are those rights? Does the water right rely on irrigation return water or agricultural runoff which could potentially diminish due to changed irrigation practices over the next 50 years?
- Topography & Soils: If there were issues in existing conditions, how are the issues addressed in the desired conditions? This is especially important if water features are planned.

- Provide a summary table of the expected evaluation criteria rankings with rationale. This could also be in an appendix, but the HQS score should be included in this section.

## Project Description and Statement of Work

What actions will occur to get from existing conditions to desired conditions? This should be an easy to follow, step by step process that a third party can take and utilize to complete the project work. Include maps and supplemental information, as needed.

- Detailed written specifications and work descriptions for the project, including (if applicable), but not limited to:
  - Geographic boundaries of the project.
  - Construction methods, timing, and sequence
  - Any required permits
  - Source(s) of water, including connections to existing waters and uplands
  - Methods for establishing the desired plant community
  - Methods to control invasive plant species
  - Proposed grading plan, including elevations and slopes of the substrate
  - Planting/seeding plan
  - Soil management
  - Erosion control measures
- Description and detailed schedule with line-item cost breakdown of all elements of construction, including, but not limited to grading and planting (if applicable). This can be included as an appendix in the plan.
- Include who will oversee the implementation of the project and act as a contact for any questions.

- Any deviations from the approved plan must first be approved by Reclamation before implementing.
- As-built project plans or sketches will be provided to Reclamation, including drawings and a description of any changes from the original approved plan
- Copies of seed bag tags to document actual final seed mix.

## Maintenance and Management

- Description and schedule with cost breakdown of maintenance and management requirements, including invasive species control, to ensure the continued viability of the resource once construction is complete.
- The schedule and cost breakdown for maintenance and management can be included as an appendix.

## Monitoring

Describe monitoring responsibility, methods, schedule and reporting process for the habitat replacement project. Please use bulleted statements and/or tables as much as possible. Avoid lengthy narrative. This section should include enough information to be a standalone procedure that anyone could replicate.

- Include the schedule and cost breakdown of monitoring activities, either in the monitoring section of the report or include the monitoring plan as an appendix.
- Schedule should include monitoring visits once a year with Reclamation and FWS (if available) for the first five years after project completion. This includes the issuance of a yearly report to Reclamation (with photographs). After the first five years, if the project is meeting or progressing towards the desired conditions, the frequency of monitoring and reporting can be adjusted to 3 to 5 years for the remaining life of the project, upon Reclamation's concurrence.
- Describe the ecologically-based, measurable standards that will be used to determine whether the habitat replacement project is achieving its objectives. Be consistent. The standards used to determine the existing condition should be what is used for monitoring. Explain how the standards tie back to the desired conditions and the evaluation criteria. The monitoring methods used are at the discretion of the irrigation company.
- Describe the parameters to be monitored in order to determine if the habitat replacement project is on track to meet the desired conditions and how adaptive management will be incorporated, if needed. Below are two examples for reference.
  - **Example 1:** In order for the habitat to reach its full potential the following evaluation criteria need to be addressed: \_\_\_\_\_. These criteria are lacking in the following ways:
    - 
    -

The following actions are planned in order to reach the desired condition. Monitoring of these criteria will be accomplished by... (provide quantifiable, repeatable methods to the extent possible):

- Reading 10 random vegetation plots to measure...
- Ocular estimate of percent cover for each vegetative strata...
- Physical count of...
- Transects at established monitoring points to...

Monitoring will be conducted by \_\_\_\_\_ every \_\_\_\_\_ to ensure the habitat replacement project is on track to meet the desired conditions.

- **Example 2:** Table xxx below provides a summary of the evaluation criteria that should be monitored to ensure the habitat replacement project is on track to meet the desired conditions. Monitoring will be conducted by \_\_\_\_\_ every \_\_\_\_\_ to track progress. The monitoring & assessment methods referred to in the table are detailed as follows:
  - Ocular method for vegetative diversity: list and count the number of species present within a 20 by 20 foot area (which covers xxx% of habitat area).
  - Percent canopy cover: ....
  - Line-point intercept: ...

Table xxx for Example 2

Evaluation Criteria	Assessment & Monitoring Method	Existing Assessment Results	Desired Assessment Results	Adaptive Management Planned
Vegetative Diversity	Ocular-(define process in monitoring section)	# of species of grasses, forbs, etc.	5 species of grasses with 2 being cool season. 3 species of forbs 1 tree species	Seed Plant trees
Stratification	% canopy cover for entire area	xxx% tree xxx% shrub xxx% herbaceous	xxx%	Plant shrubs
Native vs. Non-native Species				
Noxious Weeds				
Vegetative Condition/ Health				
Interspersion of Water with Vegetation				
Connectivity				
Uniqueness/ Abundance				
Water Supply				
Alteration				

## Summary

Below are two examples for summarizing the action items identified in the habitat replacement plan. Example one is a narrative summary while example two is a table summary. The examples below are meant for guidance only. Each habitat replacement plan may have varying types of action items.

**Example 1:** The implementation of this plan includes the following actions:

- 1.) installing xxx feet of pipeline to deliver water to tree and shrub plantings in order to increase vegetation diversity and stratification
- 2.) Seeding xxx of disturbed areas to prevent the establishment of noxious weeds

**Example 2:** Table xxx summarizes the actions planned for the [insert name] Habitat Replacement Plan

Table xxx for Example 2

Work Planned	Evaluation Criteria Impacted	Wildlife benefit
Install xxx feet of pipeline	Spp diversity stratification	<ul style="list-style-type: none"><li>• Create nesting habitat</li></ul>
Seed xxx acres	Spp diversity Noxious weeds Native vs. non-native	<ul style="list-style-type: none"><li>• Improve winter forage</li><li>• Provide hiding cover for small mammals</li></ul>

## Appendices [separate page(s)]

Appendices should include all of the following as they apply. Appendices need not be limited to this list.

- Maps
- Supporting baseline data, transects, water quality samples, etc.
- Habitat quality score sheet and maps
- Schedule and Cost Breakdown for each phase of the project: Construction, Ongoing Maintenance, Management, and Monitoring
- Copy of recorded Conservation Easement, if applicable
- Copy of any third-party agreement, if applicable
- Planting list and methods, if plantings are planned for the project