

# Ashland Forest All-Lands Restoration Partnership

## Restoration Partnership

Ashland Forest All-lands Restoration Initiative (AFARI)

### VISION

AFARI partners envision a rich and resilient dry-type forest landscape of both open and complex, closed old-growth habitats, along with thriving oak woodland and prairie in appropriate settings. The partners are cultivating a community that is deeply invested in all-lands management, which allows them to proactively engage with wildland fire for the benefits to sustained ecosystem function, terrestrial and aquatic biodiversity, and delivery of desired ecosystem services to communities.

### PARTNERSHIP MEMBERS

Core Implementing Partners:

- City of Ashland
- US Forest Service
- Lomakatsi Restoration Project
- The Nature Conservancy

Additional Core Partners:

- US Fish and Wildlife Service
- Jackson Soil and Water Conservation District
- Natural Resources Conservation Service

New Partners:

- Oregon Department of Forestry
- OSU Extension Forester
- Bureau of Land Management
- Watershed Councils

### ECOLOGICAL PRIORITY

- Dry - Type Forest Habitat
- Oak Woodland and Prairie Habitat
- Aquatic Habitat for Native Fish Species

### FOCAL SPECIES

- Fisher
- Northern Spotted Owl



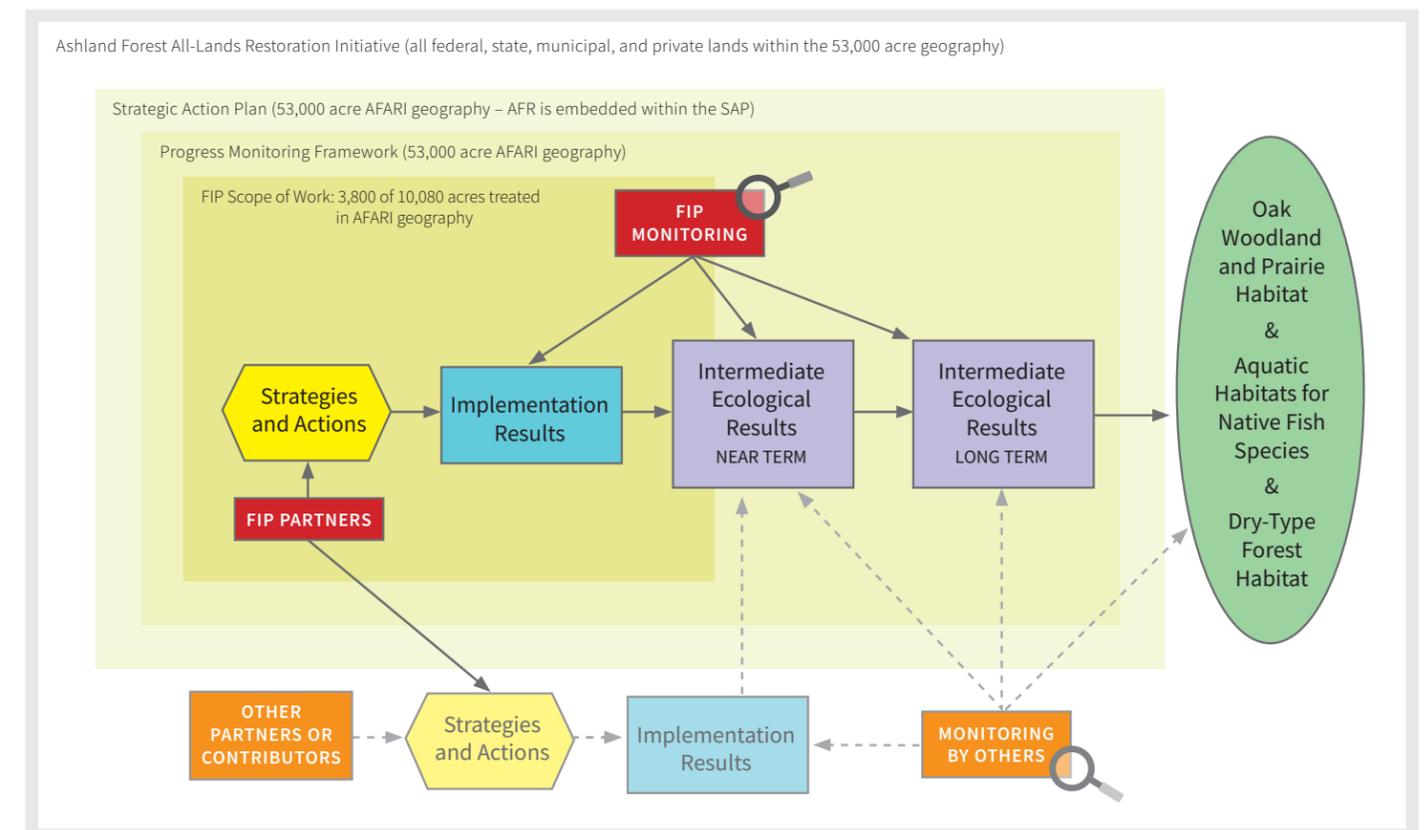
### GEOGRAPHIC SCOPE

The 58,000 acre Ashland Forest All-lands Restoration Initiative area is located in the eastern Siskiyou Mountains of the Klamath Mountains Ecoregion. The site is centered on the Ashland Creek watershed and adjacent watersheds and sub-watersheds of the Upper Bear Creek Basin including Wagner, Wrights, Hamilton, Tolman, Clayton, and Neil Creeks and upper branches of Emigrant Creek, all outlined on the south by the Siskiyou Crest, east to the western edge of the Cascade-Siskiyou National Monument and west to Wagner Creek.

## Operational Context

The initiative represents an expansion of the existing federal Ashland Forest Resiliency project occurring on US Forest Service lands - growing the 22,000-acre planning area focused on federal lands to 53,000 acres where treatments are applied on all land ownerships, including private and non-federal public lands. The FIP scope of work focuses on treatment of 3,800 acres and complements 4,500 acres already treated and 2,900 acres scheduled for treatment under the Ashland Forest Resiliency project, 380 acres anticipated to be treated by landowners, and 2,000 acres funded for treatment by the Joint Chiefs Landscape Restoration Partnership.

Figure 1: Operational context of the OWEB-funded Focused Investment Partnership Initiative



# Theory of Change

## SITUATION

A century of fire exclusion and large-tree timber harvest has allowed forests to become uncharacteristically dense, but without the needed natural species diversity at a landscape scale – both of which are important to a healthy forest system. As a result, the forest system is less resilient. In addition, the accumulation of leaf litter on the ground, combined with denser understory in the forest has left the system more prone to higher-intensity, higher-severity, stand-replacing fires.

Without action, fuel loads will continue to accumulate, risk of catastrophic wildfire and associated destruction of natural resources will increase, large tree mortality rates will continue to accelerate and a vital component of the forest ecosystem will be lost. These forests will be replaced by younger, dense, volatile forests that are less resilient to natural disturbances and to anticipated climate change. The overall health of the forest ecosystem – dry-type forest with late-successional wildlife habitat, oak woodlands, and aquatic habitat for native species – will continue to degrade and become increasingly dense, and the remaining open, fire-resistant forest will be compromised by encroachment.

## APPROACH

The results chain (*Figure 2*) articulates the partnership's theory of change by displaying the relationships between strategies, implementation results, and the intermediate ecological results partners predict will occur in response to strategy implementation that will ultimately lead to restoration of the FIPs ecological priorities.

Numbered results identified in *Figure 2* are those the partnership has highlighted as part of a monitoring approach. They will allow the partnership to measure progress in both the near (e.g. 6-year FIP timeframe) and long term, and to identify where key uncertainties might exist with regards to confidence of predicted outcomes or relationships between results.

Each numbered implementation result is associated with the corresponding objective in the Strategic Action Plan (*Tables 1 and 2*). For intermediate ecological results, objectives are included if identified; however, for many ecological results, the degree (and timeframe) to which they will be achieved is not yet well understood. Given this complexity, continued assessment and planning will be required to support development of specific, measureable objectives for the desired ecological outcomes.

The narrative below summarizes the resulting theory of change. Implementation results and ecological results prioritized for monitoring during the six-year FIP timeline are indexed to correspond to the results chain (*Figure 2*) and measuring progress tables (*Tables 1 and 2*).

## STRATEGIES

The partnership proposes strategies and actions that focus primarily on needed forest thinning and fuels reduction. The work is designed to restore a balance between open and closed forest that approaches a desired range of variability. This will result in fuel conditions and stand composition and structure that mitigate the threat of severe wildfire, and promote low intensity fire. The work also reduces density of small trees, which supports growth of old legacy trees of by reducing competition and returns tree vigor and resistance to insects and disease. Successful implementation of strategies will benefit oak and late successional forest dependent wildlife.

## STRATEGIES

### 1 Ecological thinning, fuels reduction, and prescribed fire

This strategy includes mechanical thinning and fuels reduction and subsequent prescribed burning to reset the stage for beneficial long-term maintenance with controlled fire.

#### Theory of Change.

Thinning in strategically identified and prioritized potential open canopy forest habitat sites<sup>1</sup> will result in the removal of vegetation that impedes development of large oaks that typically have wide branches<sup>6</sup> and will reduce the density of smaller, understory plants<sup>12</sup>.

- Strategic thinning will increase the overall proportion of open canopy<sup>13</sup> at the landscape scale, increase the recruitment and vigor of fire-resistant species<sup>14</sup>, and increase the resilience of forest ecosystems to drought, extreme fire, insects, and disease.
- These landscape scale results will lead to an overall improvement of habitat supporting forest dependent wildlife species<sup>15</sup>.

The process of prioritizing areas with opportunities to optimize restoration and fire management on non-industrial private forests<sup>2</sup> results in the engagement and education of private landowners<sup>8</sup>, and the implementation of actions to reduce fuel density in these areas<sup>10</sup>.

- These identified fuel-reduction actions in turn will increase the landscape proportion of open canopy<sup>13</sup>, result in a shift in the frequency and severity of wildfire risk towards an acceptable range of variation<sup>16</sup>, and reduce risk of fire in the wildland urban interface<sup>11</sup>.
- The reduction in fuel density will also reduce the occurrence of severe outbreaks of forest insects and diseases, thereby reducing tree mortality and potential for sediment inputs into aquatic environments from soil erosion and landslides.

The process of identifying forest thinning or fuels reduction treatment sites will also identify areas where no action is needed to protect existing sensitive resources<sup>4</sup>.

The identification of fire management opportunities in the wildland urban interface associated with open forest habitat restoration<sup>3</sup> will result in opportunities to use prescribed fire as a tool<sup>9</sup> to manage fire risk in these areas<sup>11</sup>.

### 2 Foster development of engaged citizenry

The partners will increase community outreach by organizing guided tours, delivering youth education programs, hosting workshops, and coordinating media coverage of their efforts. These outreach efforts educate interested citizens, establish an understanding of the ecological rationale and foundation of the partnership's strategies, and promote face-to-face opportunities to ask and answer questions.

#### Theory of Change.

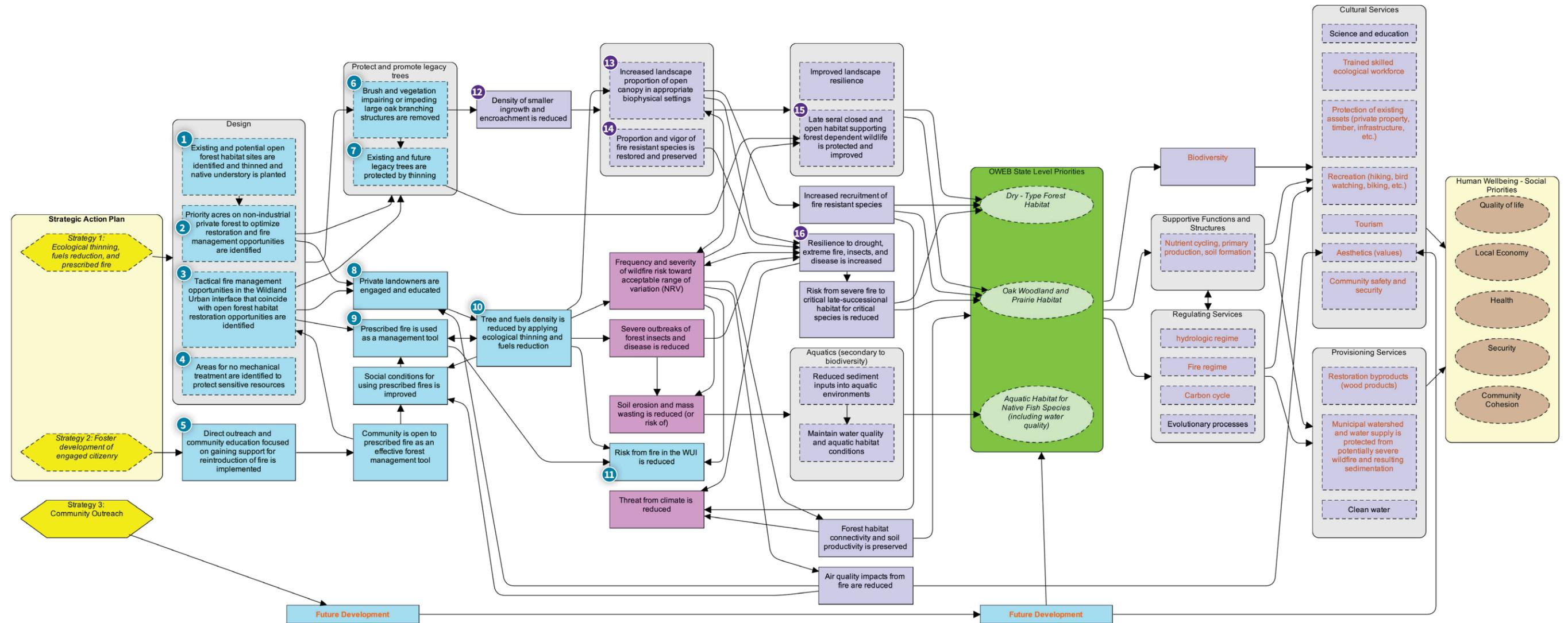
Community outreach and education focused on the benefits of prescribed fire<sup>5</sup> will increase public understanding and expand community openness to using prescribed fire as a management tool. An expansion of public openness and support will allow the partnership to more fully act on identified opportunities in the wildland urban interface to apply prescribed fire treatments<sup>9</sup>.

Superscript numbers<sup>1-17</sup> can be cross referenced on the Results Chain diagram and the Implementation Progress/Ecological Progress tables on the following pages.

# Results Chain

Figure 2: Results chain for Ashland Forest All-Lands Restoration Partners Initiative

Progression of the Results Chain.



## Measuring Progress

The partnership's monitoring approach is based on the 2013 Ashland Forest Resiliency Stewardship Project Monitoring Plan (The Nature Conservancy) and seeks to track treatment implementation, evaluate success at restoring desired habitat conditions where treatments occur, and evaluate change in potential wildfire spread and intensity as a result of treatments. The Partners are also tracking changes in public perceptions of the partnership's strategies and goals.

OUTPUTS

# Implementation Progress

**Table 1.** Implementation results objectives and metrics. The result numbers correspond to results shown in the results chain (Figure 2) and theories of change.

IMPLEMENTATION RESULTS

OBJECTIVES

METRICS

<b>1</b>	Existing and potential open forest habitat sites are identified and thinned and native understory is planted	Through spatial analysis and field assessment, identify both existing open forest habitat and sites with open habitat potential and apply ecological thinning, appropriate planting and native understory restoration.	Area of existing open forest habitat for protection Area of open habitat potential thinned/planted/restored
<b>2</b>	Priority acres on non-industrial private forest to optimize restoration and fire management opportunities are identified	Identify 3,800 strategic priority acres on non-federal land within the initiative area to optimize restoration of open forests and landscape fire management opportunities.	Area of non-federal lands identified as strategic restoration priorities
<b>3</b>	Tactical fire management opportunities in the wildland urban interface that coincide with open forest habitat restoration opportunities are identified	Identify tactical fire management opportunities in the Wildland Urban Interface that coincide with open forest habitat restoration opportunities to protect residential areas from severe wildfire and allow opportunities for safe reintroduction of fire through controlled burning.	Number of opportunities for safe controlled burning in the WUI
<b>4</b>	Areas for no mechanical treatment are identified to protect sensitive resources	Identify areas to avoid mechanical treatment to protect sensitive species and habitats.	Area to receive no mechanical treatment
<b>5</b>	Direct outreach and community education focused on gaining support for reintroduction of fire is implemented	Through direct outreach and community education, gain public support for reintroduction of fire on at least 2,000 acres in the initiative area.	Not identified
<b>6</b>	Brush and vegetation impairing or impeding large oak branching structures are removed	Retain and promote large oak branching structures, cavities, acorn production, and other critical oak habitat features through removal of brush and competing vegetation to reduce severe fire threat and set the stage for reintroducing low intensity fire.	Proportion of brush removed in areas identified through assessment activities (1-4 above)
<b>7</b>	Existing and future legacy trees are protected	Protect legacy trees and future legacy trees by thinning encroaching smaller trees, competing species, and fuel accumulations.	Proportion of identified legacy trees protected by thinning
<b>8</b>	Private landowners are engaged and educated	Engage and educate private landowners through direct marketing, neighborhood meetings, events, and social media.	# of landowner contracts (AFAR); Field tour attendance; Website use Grant reporting; Website content; Tours and presentations
<b>9</b>	Prescribed fire is used as a management tool	Ameliorate risk to the forest from human-caused ignitions in the wildlife urban interface by treating	Area or proportion of planned fuels reduction treatment
<b>10</b>	Trees and fuels density are reduced by applying ecological thinning and fuels reduction	Ameliorate risk to the forest from human-caused ignitions in the wildlife urban interface by treating.	Density of fuels in treated areas
<b>11</b>	Risk from fire in the wildlife urban interface is reduced	Not defined	Fuel model; Canopy base height; Ladder fuel hazard rating; Modeled wildfire hazard

OUTCOMES

# Ecological Progress

**Table 2.** Ecological results potential objectives and potential metrics. The result numbers correspond to results shown in the results chain (Figure 1) and theories of change.

Given the complexity of ecosystems, continued assessments and planning will be required to support development of specific, measurable objectives for desired ecological outcomes.

LIMITING FACTOR REDUCTION OR INTERMEDIATE ECOLOGICAL RESULTS

POTENTIAL OBJECTIVES

POTENTIAL METRICS

<b>12</b>	Density of smaller ingrowth and encroachment is reduced	Reduction in density of smaller ingrowth achieved through restoration treatments will be identified on initial projects and inform specific objectives for future treatments.	Understory cover Abundance and diversity of native species
<b>13</b>	Increased landscape proportion of open canopy in appropriate biophysical settings	To be determined through preliminary post-project monitoring	Stand structure (tree species, diameter, density, basal area, canopy closure) Seral structural state (Haugo et al. 2015) Cut tree lists (commercial thinning units only) Understory cover Treatment mapping
<b>14</b>	Proportion and vigor of fire resistant species is restored and proportion of open canopy in the landscape is increased	To be determined through preliminary post-project monitoring	Stand structure Fuel model Treatment mapping Modeled wildfire hazard
<b>15</b>	Late seral closed and open habitat supporting forest dependent wildlife is protected and improved	To be determined through preliminary post-project monitoring	Stand structure (tree species, diameter, density, basal area, canopy closure) Seral structural state Understory cover Legacy presence and species Photo monitoring Pre-post legacy condition Understory cover Ladder fuel hazard rating
<b>16</b>	Resilience of forest and old growth to drought, extreme fire, insects, and disease is increased	To be determined through preliminary post-project monitoring	Treatment mapping Modeled wildfire hazard

ECOLOGICAL PRIORITIES

- Dry-Type Forest Habitat
- Oak Woodland and Prairie Habitat
- Aquatic Habitat for Native Species

Monitoring the status and trends of ecological priority habitats and focal species will include coordination with agencies or conservation organizations operating at the appropriate landscape or population scales. FIP partners will work with these entities to establish a process for integrating their monitoring framework with existing status and trends monitoring programs (if they occur) or to establish an approach for identifying key ecological attributes that should be measured to document and communicate change in the status and trajectory of ecological priority habitats and focal species populations.

## Status & Trends