

The Learning Scenarios

A total of 19 Learning Scenarios were run by the project team to explore various natural heritage design options developed by the Scenario Development Team (SDT). The Learning Scenarios helped the team assess how well different spatial configurations were performing against the Baseline Comparator and its achievement relative to science-based thresholds.

The Learning Scenarios also allowed the SDT to obtain answers to some specific “What-if” questions about the landscape in general.

Learning scenarios were run that explored outcomes if targets were based on a percentage (e.g. from 30% to 90%) of what currently exists for each identified feature across the watershed. In addition, there was the “Best of the Best” learning scenario in which no constraints or costs were applied, and scenarios that looked at the idea of Distribution vs. No Distribution of the targets by watershed planning areas or soil landscapes. Three scenarios were run that looked at only the targets associated with: Biodiversity Representation, Ecological Function, and Hydrologic Function, and lastly, there were a series of scenarios run to look at specific options as they related to agricultural and urban lands.

The project team presented each Learning Scenario to the group with an explanation of the purpose for each, mapping that helped to illustrate the spatial outcomes, and the statistics that revealed how well each scenario performed relative to the science-based targets used under the Baseline Comparator Scenario.

It was explained to the SDT that the purpose of the Learning Scenarios was to help them understand the outcomes of various options, and to improve their understanding of how the decisions they were making about the data in terms of constraints and targets were affecting the outcomes.

The Baseline Comparator (A)

Represents the baseline targets as set by the Scenario Development Team based on best available science, knowledge, and information with Costs for Agriculture, Aggregate and Urban Areas. It is the truest representation of “What-is” on the landscape or the “status quo” in terms of current legislation and land use policies. All other Learning Scenarios were compared back to this Scenario. See full explanation under the Final Scenarios section of this report.

The Most Constrained Scenario (B)

Represents the Targets as set by the Scenario Development Team with Exclusion status for Agriculture, Aggregate and Urban lands. This Scenario was considered a Baseline for most of the process so statistics are available for comparison to both the Baseline Comparator and to science for this scenario. See full explanation under the Final Scenarios section of this report.

The Compromise Scenario (20)

Represents the Scenario Development Team’s best attempt at a Compromise. It is a combination of three scenarios including: No Distribution at 80% of Existing with No Meadows, and the Urban Areas Prescribed. See full explanation under the Final Scenarios section of this report.

Hydrologic Function Only Targets (8)

Represents the targets set for Hydrologic Function only. This allowed the Scenario Development Team to get a feel for how these targets were influencing the statistics and spatial configuration of the scenarios.

Ecologic Function Only Targets (7)

Represents the targets set for Ecologic Function only. This allowed the Scenario Development Team to get a feel for how these targets were influencing the statistics and spatial configuration of the scenarios.

Biodiversity Representation Only Targets (9)

Represents the targets set for Biodiversity Representation only. This allowed the Scenario Development Team to get a feel for how these targets were influencing the statistics and spatial configuration of the scenarios.

Best 30% of Existing (1)

Represents the targets set at 30% of what exists on the landscape for each ecological objective.

Best Half (50%) of Existing (2)

Represents the targets set at half, 50% of what exists on the landscape for each ecological objective.

Best 60% of Existing (3)

Represents the targets set at 60% of what exists on the landscape for each ecological objective.

Best 70% of Existing (4)

Represents the targets set at 70% of what exists on the landscape for each ecological objective.

Best 80% of Existing (5)

Represents the targets set at 80% of what exists on the landscape for each ecological objective.

Best 90% of Existing (6)

Represents the targets set at 90% of what exists on the landscape for each ecological objective.

No Distribution at 50% of Existing (10)

Represents the targets set at 50% of what exists on the landscape for each ecological objective but with no forced geographic distribution.

No Distribution at 60% of Existing (15)

Represents the targets set at 60% of what exists on the landscape for each ecological objective but with no forced geographic distribution.

No Distribution at 70% of Existing (14)

Represents the targets set at 70% of what exists on the landscape for each ecological objective but with no forced geographic distribution.

No Distribution at 80% of Existing (12)

Represents the targets set at 80% of what exists on the landscape for each ecological objective but with no forced geographic distribution.

No Distribution at 90% of Existing (13)

Represents the targets set at 90% of what exists on the landscape for each ecological objective but with no forced geographic distribution.

No Meadows targeted (19)

Represents no meadow areas targeted or considered for their contribution to ecological objectives.

Urban Areas Built Excluded (17)

Represents all natural cover within the Urban Built Up areas Excluded from consideration or contribution to the ecological targets.

Urban Areas Built and Greenfields Excluded (18)

Represents all natural cover within the Urban Built Up and Greenfield Areas Excluded from consideration or contribution to the ecological targets.

Urban Areas Prescribed (16)

Represents all natural cover within Urban Areas Excluded from consideration or contribution to the ecological objectives except where Hazard Lands (NPCA's definition) have been Included. No evaluation by the model within Urban Areas.

Ancillary Mapping Natural Community Types from NAI ELC Mapping

This map shows the base inventory of natural area features that were used to derive the ecological objective inventories.

Cumulative Abundance of Target Values

This map shows the distribution of the cumulative total area of the targeted values or ecological objectives across the landscape. It gives an indication of the areas that are the richest relative to the ecological objectives set by the Scenario Development Team.

Urban, Aggregate and Agriculture Lands

This map shows the spatial distribution of those lands considered Agricultural (based on soil capability), Aggregate (based on bedrock deposits) and Urban (based on Built Boundaries) throughout the study area.

The Statistical Analysis

Descriptions have been given on the statistics sheets for the various types of statistics run on the Learning and Final Scenarios. The following might help to further explain what these statistics mean:

Percent of Land Type Occupied by Scenario

This set of statistics refers to the percentage of a particular land type (i.e.: urban) that is occupied by the solution (result covered up by the scenario). Example: Under the Baseline Comparator 21.57% of all available Urban Lands as a whole have been selected into the scenario.

Percent of Land Type Contributing to Scenario

This set of statistics refers to the contribution of a particular land type (i.e.: urban) to the solution (result represented in the scenario). Example: Under the Baseline Comparator, 13.27% of the scenario as a whole comes from selected Urban Lands.

Percentage of Total Land Base

This statistic shows the percentage that the scenario takes up of the entire land base of the study area.

Percent of Natural Cover Inventory

This statistic shows the percentage that the scenario uses of all of the natural cover available in the inventory within the study area.

Percent Achievement Relative to Value Captured in the Baseline Comparator

This set of statistics shows how well the scenario performed in relation to the Baseline Comparator in terms of the value achieved. The statistics are given on the three types of ecological objectives: Biodiversity Representation, Ecological Function, Hydrological Function. Achievement of the Baseline Comparator to itself is always 100%.

Percentage Achievement Relative to Total Value Available in the Inventory

This set of statistics shows how well the scenario performed in relation to the total value of everything that could contribute in the inventory. The statistics are given on the three types of ecological objectives: Biodiversity Representation, Ecological Function, Hydrological Function. Example: Under the Baseline Comparator 97.94% of all of the value available in the ecological inventories has been selected into the scenario.