

## Content Matrix

### THE BIG IDEA: UNDERSTANDING THE CHANGE WE SEE IN THE WORLD AROUND US

This matrix includes examples of messages, content, experiences and media that can be used in the future Visitor Center. Further research and design is required to determine which of the ideas below should be retained and what new ideas should be added to provide the optimal visitor experience.

Locations	Messages	Content	Experiences	Media
Highway	<ul style="list-style-type: none"> <li>You are in the Ice Age Flood region.</li> </ul>	<ul style="list-style-type: none"> <li>"Pathway of the Ice Age Floods."</li> </ul>	<ul style="list-style-type: none"> <li>Highway travelers heading both north and south see highway signage alerting them the Dry Falls Visitor Center and State Park. This signage is prominent and repeated several times, informing potential visitors of the distance to the Center.</li> <li>Nearing the Center, visitors also see signs inviting them to tune in on a radio frequency to hear a 6-8 minute radio informational "teaser" about Dry Falls floods and visitor experience.</li> </ul>	<ul style="list-style-type: none"> <li>Signage</li> <li>Audiovisual program</li> </ul>
Parking	<ul style="list-style-type: none"> <li>Sun Lakes-Dry Falls State Park contains a lot of intriguing and spectacular features associated with the Ice Age Floods.</li> <li>The Ice Age Floods sculpted Dry Falls and the Grand Coulee.</li> <li>The Floods had significant impact on the flora, fauna, and human activities in this area.</li> <li>Tread lightly on the land to conserve this precious natural resource.</li> </ul>	<ul style="list-style-type: none"> <li>Ice Age Floods <u>thematic overview</u> and <u>orientation</u>.</li> <li><u>Dry Falls</u>: When the Ice Age Floods subsided, large areas of eastern Washington were left scarred with dry channels called coulees. Dry Falls cuts across the Grand Coulee, the largest one. This 3.5 mile wide and 400-foot tall group of cliffs was once the largest waterfall in the world — floodwaters, perhaps 300 feet above, rushed over it, gaining velocity. This caused the waterfall to carve deeper into the bed and to recede upstream, forming a gorge and carving deeper into the ridge above it.</li> <li><u>Signs of life</u> in the area, such as raptors, nesting bats, and other wildlife or wildlife signs (white stain of uric acid from rodents) that visitors can see from the viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li><u>Overview</u>: Series of visuals depicting different stages of a flood event, each from a bird's-eye perspective of the entire flood region affected by the flood waters. Associated with the Ice Age Floods Height Finder.</li> <li><u>Orientation</u>: Stylized statewide map depicting Ice Age Floods interpretive opportunities as a backdrop for a larger scale map of the Dry Falls region. This map also depicts the activities that visitors can enjoy in the region.</li> <li><u>Dry Falls Formation</u>: Cross-section of the Grand Coulee during a flood event, with a focus on the height of the flood waters, how a waterfall forms, and the shaping of the area over time, forming a receding gorge.</li> <li><u>Signs of life</u>: Pull-out images of different plants and wildlife in the area that would not be there if not for the floods.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels with operable parts</li> </ul>
Welcome	<ul style="list-style-type: none"> <li>Welcome to the Sun Lakes-Dry Falls Visitor Center.</li> <li>Experiences in the Center express the science and story of the Ice Age Floods.</li> <li>This State Park is part of a network of parks that tells stories about flood events.</li> <li>Tread lightly on the land to conserve this precious natural resource.</li> </ul>	<ul style="list-style-type: none"> <li>You are standing in the Ice Age Flood Corridor. This area is a science paradise of volcanic features, rich fiords, Ice Age and Great Flood scars, old mastodon bones, and biological diversity.</li> <li>There are many places, stories, and activities that you can enjoy throughout the Corridor, which spans Idaho, Montana, Oregon, and Washington.</li> <li>Though part of a greater Ice Age Flood story, the Sun Lakes-Dry Falls State Park has its own unique, local story to tell.</li> <li>Washington State Parks and the surrounding landscapes are fascinating places to visit and worth protecting as a part of our State's heritage.</li> </ul>	<ul style="list-style-type: none"> <li>Approaching the Center, visitors encounter a large erratic that is iconic of the many boulders deposited by the Ice Age floods.</li> <li>A friendly docent at the welcome desk greets visitors as they enter.</li> <li>Interpretive graphics present interpretive opportunities available in the four-state Ice Age Flood Corridor.</li> <li>Volunteers at the help desks help visitors plan trips and offer a range of brochures in a variety of languages (English, French, German, Spanish, Chinese, Japanese, and Russian).</li> <li>Computers and interactive exhibits allow visitor to create tailor-made trip plans in the Corridor.</li> <li>Evocative photographs, audiovisual programs, and artwork produced from a local perspective raise awareness of the fascinating life, as well as conservation and safety issues at Sun Lakes-Dry Falls State Park.</li> </ul>	<ul style="list-style-type: none"> <li>Natural artifact</li> <li>Brochures</li> <li>Graphic panels</li> <li>Computer interactives</li> <li>Audiovisual programs</li> <li>Artwork</li> </ul>
Follow the Flood Path	<ul style="list-style-type: none"> <li>The story of the floods is written in the landscape.</li> </ul>	<ul style="list-style-type: none"> <li>Glaciers 5,000-10,000 feet thick in northern Washington pushed down the Okanogan Valley and crossed the Columbia River during the Ice Age.</li> </ul>	<ul style="list-style-type: none"> <li>A large, interactive topographical map provides a geographical overview of the legacy of the ice age flood.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels</li> </ul>

Locations	Messages	Content	Experiences	Media
	<ul style="list-style-type: none"> <li>This story is dynamic, changing constantly as a result of different forces, some of which act slowly and some of which act rapidly.</li> </ul>	<ul style="list-style-type: none"> <li>Ice filled Columbia Valley and pushed onto Waterville Plateau. Water, backed up by the ice dam, spilled over Columbia Plateau into Columbia Basin.</li> <li>During this time, Grand Coulee began its process of formation since the original river channel had been lost by burial in ice.</li> <li>The old Cascade Mountains also formed. The uplifting mountains didn't block the flow of Columbia River completely, and a deep gorge formed that helped determine the course of the flood waters.</li> <li>Near the end of the Ice Age volcanoes of the high Cascades rose to elevations of 15,000 feet. Glaciers sculpted older volcanoes, such as Mt. Hood and Mt. Rainier; others, such as Mt. St. Helens, remained unsculpted.</li> <li>Columbia Basin was nearly covered by floodwaters when an ice dam at Lake Missoula in western Montana broke 18,000 years ago. Large boulders lay strewn near the outlet of the Lower Coulee (Lake Lenore). Other boulders were rafted in icebergs as far as western Oregon.</li> <li>After the Ice Age, the Columbia River returned to its former channel. The channeled scablands and coulees were left stranded 500 to 1,600 feet above the present river floor.</li> </ul>	<ul style="list-style-type: none"> <li>This three-dimensional map provides visitors with a bird's eye view of the enormity of the floods.</li> <li>A spin browser adjacent to the map allows visitors to both accelerate and slow time and investigate topics of interest.</li> <li>Large overhead screens suspended from the ceiling streams visitors' interactions with the map.</li> </ul>	<ul style="list-style-type: none"> <li>Topographical map</li> <li>Audiovisual program</li> <li>Mechanical interactive</li> <li>Screens</li> </ul>
<b>Theater</b>	<ul style="list-style-type: none"> <li>The landscape you see here is the product of many natural forces working over a long period of time.</li> <li>Geologists reconstruct these mysterious events by studying the evidence and proposing solutions.</li> <li>The group of organisms that live here has been influenced by this flood-affected environment and, as a consequence, is uniquely adapted to live here.</li> </ul>	<ul style="list-style-type: none"> <li><b>Fire.</b> Beginning 17 million years ago, and continuing over a period of more than 11 million years, a fiery period of volcanic activity pours lava over the landscape. These massive basalt flows, each hundreds of feet thick, spread across thousands of square miles, stretching from the Bitterroot Mountains to the Pacific Ocean.</li> <li><b>Ice.</b> Mile-thick glaciers began to form approximately 2.6 million years ago as the climate cooled. The ice later retreats during periods of climatic warming, unleashing a series of cataclysmic floods sometime within about the last million years or so ago.</li> <li><b>Floods.</b> During these periods of spectacular flooding, glacial dams near present day Missoula, Montana, break apart, releasing a giant lake. The faces of Washington and Oregon are torn open and carved out by what geologists believe was the greatest moving body of water in the Earth's history.</li> <li><b>Mystery.</b> How do we know these events shaped our landscape? By investigating clues in the rock. The landscape shows evidence of river canyons, titanic ripple marks, boulder-strewn valleys, and dry foundations of the world's largest waterfall situated away from any water source. J Harlan Bretz, a geologist, investigated these clues to solve the mystery. He deduced that a catastrophic flood produced this evidence. But not everyone agreed with him. This debate has continued for nearly half a century.</li> <li><b>Today.</b> The floods that have shaped our landscape have also shaped its natural and cultural history. The life here is unique to this habitat.</li> </ul>	<ul style="list-style-type: none"> <li>An immersive theater experience enables visitors to experience tens of thousands of years of the Northwest's history in 10-14 minutes.</li> <li>Spectacular images, sweeping overviews, vivid storytelling and superb animation are united by a dramatic musical score that communicates the epic tale of the Ice Age Flood events.</li> <li>Special effects, theatrical lighting and physical props suspended on the theater walls immerse visitors in the flood — a massive rush of water appears to surge by them as boulders race past them on screen.</li> </ul>	<ul style="list-style-type: none"> <li>Audiovisual program</li> <li>Theatrical lighting</li> <li>Special effects</li> <li>Props and / or artifacts</li> <li>Landform</li> </ul>
<b>Bookstore</b>	<ul style="list-style-type: none"> <li>Learn more about the story of the Ice Age Floods and the local environment.</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Purchase books and memorabilia related to the culture, history and ecology of the Ice Age Flood Corridor in the Dry Falls Bookstore.</li> </ul>	<ul style="list-style-type: none"> <li>Signage</li> </ul>
<b>Restrooms</b>	<ul style="list-style-type: none"> <li>This building conserves our region's natural resources.</li> </ul>	<ul style="list-style-type: none"> <li>Water conservation strategies.</li> </ul>	<ul style="list-style-type: none"> <li>Water-energy conservation and green-building features are highlighted.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels</li> </ul>

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<b>Fire and Ice Gallery: Volcanic Period</b>	<ul style="list-style-type: none"> <li>The landscape you see here is the product of many forces working over a long period of time.</li> <li>These natural forces set the stage for and influenced the Ice Age Floods.</li> <li>Columnar basalt was a key factor in determining the resulting landscape.</li> <li>Basalt fossils have been discovered in this area.</li> </ul>	<p><u>How did this land take shape?</u></p> <ul style="list-style-type: none"> <li>About 24 million years ago the North Cascade was a micro-continent. The movement of the tectonic plates docked this continent against the western continent, jamming the coastal plains into tight folds. The northwest pattern of the folds is evidence of this event (if you kick a rug, it wrinkles in a direction traverse of that kick).</li> <li>About 17 million ago and continuing approximately over 11 million years, dozens of lava flows erupted from deep fractures in the earth's surface near the Washington-Idaho-Oregon border. The massive basalt flows, 600 feet thick spread across 20,000 square miles, many following and filling ancient channels of the Columbia River and its tributaries. Ultimately, the flows of molten basalt reached the river deltas and coastal inlets of the Pacific Ocean from the Cascade Mountains, and began to fill an inland sea with lava.</li> <li>This lava field is shaped somewhat like a giant saucer, tilted to the southwest. This grade influenced the flood route, causing the water to pick up velocity and contributing to the erosive force and formation of scablands.</li> <li>A warping of the plateau and an uplift of the mountainous region in the north followed this period of volcanic activity.</li> </ul> <p><u>How did these volcanoes form?</u></p> <ul style="list-style-type: none"> <li>Subduction of the ocean plates generated the Cascade volcanic mountain chain (40 million years ago). Plate tectonics caused land masses to move together to form larger land masses and helped shape the land masses through differential pressure that caused uplift, tilting, warping, cracks and other characteristics of the landscape that affected the course and flow of the flood waters.</li> </ul> <p><u>How do we know it?</u></p> <ul style="list-style-type: none"> <li>Different areas in Washington are composed of rocks that are geologically distinct. They are pieces of a puzzle — clues — that indicate an area's origin. The Okanogan micro-continent, for example, is composed of granitic rocks, which are much older than the basalt that comprises the Columbia Plateau.</li> <li>Basalt rock up to 10,000 feet thick and consisting of more than 300 lava flows run for miles in the semi-arid region of eastern Washington. The material in basalt is from partially melted rock magma deep within the Earth's crust.</li> <li>As basalt cools, the top and bottom layers separate into 5 to 7 sided sections, similar to drying mud, called colonnades. When water seeps between the joints and freezes it can force the joints apart. The pressure from magma pushing towards the surface can also pry apart the joints. These weak joints are also the reason why columns can be plucked away from the others during floods.</li> </ul> <p><u>Did you know?</u></p> <ul style="list-style-type: none"> <li>A basalt mold of a dead rhinoceros was found nearby. The Columbia Plateau lava floods filled the pond in which the rhino was lying dead and entombed it. Erosion of the Grand Coulee exposed the fossil of a cave that contained bones and teeth. (Not discovered by scientists, but hikers.)</li> </ul>	<ul style="list-style-type: none"> <li>A spin browser allows visitors to investigate the process of subduction and explore how it shaped Washington and its volcanic activity.</li> <li>A large volcano spewing lava symbolizes the Miocene's volcanic history 20 million years ago. Visitors investigate the magnitude and effect of the lava flows on the landscape.</li> <li>Hands-on exhibits allow visitors to explore the unique properties of pillow and columnar basalt.</li> <li>Visitors also encounter fossils, artifacts, and images of the flora and fauna of the period, including ginkgos, giant ground sloths, elephants, miniature horses, and camels.</li> <li>A three-dimensional model of the Blue Lake baby rhinoceros proves fascinating to all.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels</li> <li>Mechanical interactives</li> <li>Models</li> <li>Computer interactives</li> </ul>

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<b>Fire and Ice Gallery: Ice Age</b>	<ul style="list-style-type: none"> <li>The continental ice sheet supplied water for the floods and influenced the pathway of the floods.</li> <li>Scientific study of the Ice Age Floods is contributing to the understanding of cyclical climate change.</li> </ul>	<p><u>What caused the ice age and how did it affect our landscape?</u></p> <ul style="list-style-type: none"> <li>No one knows what caused the Ice Age. But we do know that roughly 20,000 years ago, the worldwide climate changed dramatically, and a huge ice sheet moved southward across the North American continent, slowly cloaking in ice everything before an 8,000 feet elevation in northern Washington, Idaho, and Montana, with only the tops of the tallest mountains protruding.</li> <li>In Washington, the southernmost fingers of the continental glaciation reached the site of present-day Olympia, Chelan, and Kettle Falls.</li> </ul> <p><u>How do we know there was an Ice Age? How do we track the glacier's path?</u></p> <ul style="list-style-type: none"> <li>Much of the evidence for an Ice Age comes from the study of modern glaciers.</li> <li>Glaciers leave mounds of debris called moraines. Geologists find and study the scratched or striated rocks in the moraines. The scratches and grooves are etched on the rocks as rock rubs against rock, or scrapes the bedrock below the glacier. The scratches indicate the direction of the glacier's movement.</li> </ul> <p><u>How does the study of the past help us "predict" the future?</u></p> <ul style="list-style-type: none"> <li>Today, most of us are concerned about climate change. Many geologists are working to learn about the past climates of the earth, and how they have changed across time. This information is valuable to understand how our current climate is changing and what the results in the future might be.</li> </ul>	<ul style="list-style-type: none"> <li>A large wall of ice that visitors can touch symbolizes the Ice Age. The waxing and waning of the ice sheets provides visitors with the opportunity to make a connection to today's global climate change.</li> <li>Mechanical interactive exhibits allow visitors to see up-close how ice sheets scoured the land and formed glacial moraines and ice dams.</li> <li>Visitors investigate geological specimens and learn how to identify the "stories in the rock and ice" as scientists do in the field.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels</li> <li>Mechanical interactives</li> <li>Models</li> <li>Computer interactives</li> </ul>
<b>Fire and Ice Gallery: Ice Age Floods</b>	<ul style="list-style-type: none"> <li>The Ice Age Floods were the most recent major agents of change, sculpting the landscape on a massive scale over a rapid period of time.</li> <li>The sudden rushes of massive amounts of ice-choked water left indelible marks on present day Washington.</li> <li>The Ice Age floods moved a lot of material, including fossils.</li> <li>Geological features are "clues" that can be used to recreate flood events.</li> </ul>	<p><u>Where did the flood water come from?</u></p> <ul style="list-style-type: none"> <li>Fifteen thousand years ago, chunks of glacial ice had formed a dam above Clark Fork River, Idaho, plugging it like a giant cork, and backing up a 180-mile-long lake called Glacial Lake Missoula that contained as much water as today's lakes Erie and Ontario combined (2000 feet deep, held 50 cubic miles of water).</li> </ul> <p><u>Why did the ice dam break?</u></p> <ul style="list-style-type: none"> <li>As the impounded water reached 9/10ths the thickness of the ice (sometimes over 2,000 feet deep), the ice began to float. Water then poured under the weakened dam, and in a very short period, the dam failed.</li> </ul> <p><u>How did the floods affect the area?</u></p> <ul style="list-style-type: none"> <li>When the dam collapsed, the water rushed westward at 45 miles per hour, scouring the landscape down to basalt. The peak rate of flow was ten times the combined flow of all the rivers of the world. The flood was so powerful that it chewed into the volcanic basalt, following existing drainages as it could, and creating its own drainages when it overwhelmed them. The floods quarried a maze of "Channeled Scablands", taking advantage of the weakness of the rock. (One geologist described it as "an elephant jumping into a motel pool").</li> <li>Similar events may have happened in the region as many as 105 times.</li> <li>Steamboat rock, a basalt mesa, is a remnant of the pre-flood landform.</li> <li>When the water reached the Grand Coulee canyon rim, it began to spill over and flow to the south. An earlier uplifting of the basalt caused fracturing along the trend of Grand Coulee, and this weakness in the ground structure facilitated the formation</li> </ul>	<ul style="list-style-type: none"> <li>Visitors explore the formation of the Ice Age flood route and investigate a variety of geological curiosities from erratics to high water markers that evidence the great flood through real, local, and interactive exhibits.</li> <li>An exhibit demonstrates how the properties of water and ice caused the ice dam to fail and the water to escape.</li> <li>Visitors come face-to-face with an enormous and deadly looking skull of a sabre-toothed tiger and become familiar with the strange looking fauna of the time, from short-faced bears to wolly mammoths and dire wolves.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic panels</li> <li>Mechanical interactives</li> <li>Models</li> <li>Computer interactives</li> </ul>

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		<p>of a channel, providing a "spillway" for the Ice Age floods, which arrived at 50 to 60 year intervals.</p> <ul style="list-style-type: none"> <li>• <u>Dry Falls</u> is a remnant of the waterfall that existed during the floods. It was three times the size of Niagara and the total area of the cataract was larger than Africa's Victoria Falls.</li> <li>• An undersea area off the coast received silts and soils from the floodwaters. It is larger than the land area affected by Lake Missoula and the Ice Age Floods.</li> </ul> <p><u>Were there any animals or people living in the flood's path at this time?</u></p> <ul style="list-style-type: none"> <li>• There's no direct evidence that the flood affected people. It occurred prior to the major evidence for the first large group of prehistoric Americans.</li> <li>• Geologists have found the fossil bones of animals such as horses and camels and other animals known to have lived during Pliocene time (10-2 million years ago) in the floods' gravel deposits.</li> <li>• Scientists do know that large animals were taken up by the flooding. Vertebrate bones of various late Pleistocene animals, including Columbian mammoths, have been found in flood slackwater deposits (2.5 million to 10,000 years B.P.)</li> </ul> <p><u>How do we know it?</u></p> <ul style="list-style-type: none"> <li>• The actual failure of the ice dam is inferred from observations of modern glacial floods.</li> <li>• Joseph T. Pardee and others were able to calculate the depth and speed of the flood currents by studying the flood-scoured surfaces of the "Eddy Narrows".</li> <li>• J Harlen Bretz formed his theory of "the great flood" by studying landscape features: the presence of the Grand Coulee, anastomosis (braided channels), erratics from a common rock source, steep-walled rock basins with no present drainages, large loess "islands", butte-and-basin topography, cataracts, broad gravel deposits, giant gravel bars.</li> <li>• The size and distribution patterns of the erratics, boulders the size of cars and larger, offer scientists' new clues about the bergs that deposited them. Because it takes a certain amount of ice to float a certain mass of rock, iceberg size may be calculated from its erratic debris.</li> </ul>		
<b>Flood Legacy</b>	<ul style="list-style-type: none"> <li>• The story of J Harlen Bretz is proof that perseverance is important in the field of scientific endeavor.</li> <li>• Like detectives, geologists must collect and piece together physical evidence to create a "most likely" scenario of what occurred at the scene.</li> <li>• The landscape contains many stories about cultural and natural history that can be "read" if you learn how.</li> </ul>	<p><u>What was the Great Flood Debate?</u></p> <ul style="list-style-type: none"> <li>• J Harlen Bretz was fascinated with the geology of the Columbia Plateau. During the 1920s he explored hundreds of miles of its remote reaches on foot. He gathered and recorded physical data throughout the area, attempting to understand the plateau's origins. He came to the conclusion that only a river of unbelievable size, depth, and power could have created its features.</li> <li>• In 1923, mainstream geologists discounted the paper he published on his theory of the area's origin — his conclusions challenged the accepted principle of uniformitarianism. But this did not deter Bretz.</li> <li>• He continued to gather evidence from 1923 to 1932 and publish papers.</li> </ul>	<ul style="list-style-type: none"> <li>• Visitors are immersed in the process of scientific discovery and they engage with an interactive exhibit that challenges them to assess the evidence of the flood and create their own theories like "nature detectives".</li> <li>• Petroglyphs, myths, and artifacts pique visitors interest in the Native American' lifestyle and interpretation of the land. Visitors are encouraged to visit Colville and Yakama interpretive centers to discover more.</li> <li>• Visitors investigate journals and photographs to explore how the legacy of the flood continues to determine our settlement patterns, and how we use and live on the land today.</li> </ul>	<ul style="list-style-type: none"> <li>• Graphic panels</li> <li>• Props</li> <li>• Artifacts</li> </ul>



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	<ul style="list-style-type: none"> <li>• Not all the puzzles have been solved.</li> <li>• Today, scientists study the Ice Age Floods to understand geologic processes on Mars.</li> <li>• The Ice Age Floods affected and continue to affect the way humans interact with the landscape, in a variety of ways.</li> <li>• The Ice Age Floods influenced travel and trade routes as well as settlement patterns.</li> <li>• You can help protect our natural and cultural resources!</li> </ul>	<ul style="list-style-type: none"> <li>• There was one weakness in this theory: he was unable to identify a source for the tremendous volume of water necessary to create the flood.</li> <li>• He finally "found" his flood origin in Pardee's study of western Montana. Pardee had found evidence of a huge lake that tied the Channeled Scablands of Washington to a massive failure of an ice dam.</li> <li>• By the 1940s, the tide of opinion shifted with this new evidence, and geologists began to support Bretz.</li> <li>• In 1950, aerial photography provided a "birds eye view" of the region that had existed only in Bretz's imagination, finally convincing the remaining skeptics that his theory was a sound one.</li> </ul> <p><u>Why study this area today?</u></p> <ul style="list-style-type: none"> <li>• Scientists continue research in this region today – an indication that we haven't solved things.</li> <li>• The Ice Age Floods are considered and studied as an analog to understanding geologic processes on Mars, where landforms strikingly similar to those in eastern Washington exist.</li> </ul> <p><u>How have people influenced the landscape and vice versa?</u></p> <ul style="list-style-type: none"> <li>• Ice Age Floods influenced the distribution of key resources including topsoil, water and gravel. These resources determined travel, transportation, and settlement patterns in the area.</li> <li>• Human history in the Columbia Plateau dates back at least 13,000 years and possibly even earlier. For at least 5,000 years, the native peoples of the region lived in villages along the rivers. They relied on salmon fishing, root and berry harvesting, and hunting. They burned large areas to promote good berry and game habitat, and after the introduction of the horse in the mid-1700s, to improve grazing.</li> <li>• Two hundred years ago, Lewis and Clark encountered numerous Columbia Plateau peoples.</li> <li>• By the mid-nineteenth century, Euro-American settlers began arriving, with immigration peaking between 1875 and 1925. They put the region's abundant natural resources to use with timber harvesting, dryland and irrigated agriculture, grazing, and dam construction.</li> <li>• The mid-twentieth century brought tremendous changes. The Columbia Basin Project built Grand Coulee Dam, among others, with the resulting changes to the basin's hydrology. The Hanford Nuclear Reservation, once a key participant in the nation's atomic weapons program, introduced radioactive waste to the issues facing the area.</li> <li>• Today the eco-region is home to 900,000 people. Agriculture has had considerable impact on Columbia Plateau's biodiversity. Over half the region's land base has been converted to dryland or irrigated agriculture and urban development.</li> <li>• Despite the numerous changes in the landscape, sizable pieces of the Columbia Plateau's natural heritage remain. The U.S. Department of Defense's Yakima Training Center and the Department of Energy's Hanford Site retain some of the most intact examples of the region's shrub-steppe.</li> </ul>		

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<b>Site Views</b>	<ul style="list-style-type: none"> <li>• See the entire Dry Falls.</li> <li>• The Ice Age Floods significantly affected the physical environment in this region and, as a consequence, the organisms living in this environment.</li> </ul>	<ul style="list-style-type: none"> <li>• If you were standing here during the Ice Age Floods, you would be standing at the edge of a giant waterfall, 10 times the size of Niagara Falls.</li> </ul> <p><u>How has the Floods' legacy affected the local flora and fauna?</u></p> <ul style="list-style-type: none"> <li>• The re-distribution of soil had significant impact on what plants could grow where, which in turn had significant impact on the presence and distribution of wildlife that depends on those plants.</li> <li>• Basalt cliffs eroded and shaped by flood waters are used by raptors.</li> <li>• Birds use the wetland and riparian areas developed in areas carved by floodwaters.</li> <li>• Scablands support different vegetation, cover and consequently different species of wildlife.</li> <li>• Much of the remaining shrub-steppe habitat in eastern Washington is in channeled scablands.</li> <li>• Fish and waterfowl use the lakes in the Grande Coulee.</li> </ul>	<ul style="list-style-type: none"> <li>• Enjoy panoramic views of Dry Falls.</li> <li>• Connect flood features with the life that makes its home in the Sun Lakes-Dry Flood region by engaging with panels that include tactile elements and viewing scopes.</li> </ul>	<ul style="list-style-type: none"> <li>• Graphic panels</li> <li>• Props</li> <li>• View scopes</li> </ul>

# Section 7: Cost Evaluation



In May of 2009, Davis Langdon prepared a preliminary cost estimate for the new Dry Falls Visitor Center Area Plan based upon the "Journey to the Edge" design alternative. The estimate is based on the following general assumptions:

- Project start date is April 2013
- Construction period will have a duration of 9 months
- The general contract will be competitively bid with qualified general and main subcontractors
- There will not be small business set aside requirements
- The contractor will be required to pay prevailing wages
- The general contractor will have full access to the site during normal business hours
- There are no phasing requirements
- The project consists of construction of a new 11,000 square foot, two-story Visitor Center, and the demolition and removal of the existing Visitor Center
- Site improvements are for a 7 acre site
- Land and easement acquisition, assessments, taxes, finance, legal and development charges or environmental impact mitigation are NOT included as a part of this estimate

### Summary of Estimated Site Development Costs

Highway 17 Improvements	\$ 400,000 - \$ 500,000
Site Demolition	\$ 96,000 - \$ 120,000
Site Utilities & Electrical Improvements	\$ 200,000 - \$ 250,000
Parking Improvements	\$ 242,000 - \$ 303,000
Outdoor Gathering Areas	\$ 314,000 - \$ 392,000
New Visitor Center with Audiovisual Theater	\$ 4,348,000 - \$ 5,435,000
Interior Interpretive Exhibits	\$ 1,120,000 - \$ 1,400,000
Exterior Interpretive Exhibits	\$ 80,000 - \$ 100,000
Site Pedestrian Circulation	\$ 84,000 - \$ 104,000
Site Furnishings	\$ 15,000 - \$ 19,000
Site Signage	\$ 24,000 - \$ 30,000
Cultural Landscape Improvements	\$ 44,000 - \$ 55,000
Native Shrub/Steppe Landscape Improvements	\$ 160,000 - \$ 200,000
Design, Documentation & Permitting Soft Costs	\$ 1,455,000 - \$ 1,818,000
Construction Contingency	\$ 1,616,000 - \$ 2,020,000
<b>Total Site Development Costs</b>	<b>\$10,000,000 - \$14,000,000</b>





## Section 8: Summary



The new Dry Falls Visitor Center, a “Journey to the Edge” is intended to enhance and foster the educational and interpretive goals of the project by bringing the story of the Ice Age Floods to life for visitors. By blending with the landscape, the new Center will create a place that highlights the unique natural setting of the Sun Lakes-Dry Falls area. Local materials, generous views and careful detailing will integrate the building with the landscape, creating a seamless, world class experience for the visitor. Exhibits and opportunities to explore the surrounding site are planned to elicit repeated visits, and to introduce other experiences focused on the natural resources in the region. The Visitor Center building will contain spaces for the interpretive, educational, and administrative functions of the facility. The Center will welcome a wide range of user groups and visitor information will be available to visitors wishing to explore other IAF sites.

The future Dry Falls Visitor Center will be situated on a piece of land in the heart of the Ice Age Floods region. The facility and surrounding site will become a major hub of the regional IAF story. It will provide a focal educational resource center to celebrate the powerful native landscape, learn about the natural and cultural history of the Ice Age Floods, explore the Sun Lakes-Dry Falls State Park area, and find out about other attractions nearby. A diverse audience will absorb interesting sights, sounds, smells, and hands-on exhibits, and be motivated to step outdoors and experience the lessons first hand.

An outdoor classroom, outdoor seating areas and interpretive trail system will complement the interpretive exhibits inside the Visitor Center. The interpretive trail system will connect visitors to the surrounding native landscape and to interpretive kiosks. Restroom facilities located at the northern portion of the site will be available to users of the cultural landscape. An integrated approach has kept the project’s sustainable building goals in concert with the programmatic goals.

The Dry Falls Visitor Center will enhance a unique site where ecosystems, cultural history and unique geology coexist in the power-

ful natural landscape. In the middle of the IAF path, the new center creates exceptional educational and recreational opportunities. The careful site selection and design, focused on respecting the native landscape, has led to a building that is both integrated with its site and sensitive to local conditions. Guided by the expertise of the facility staff, the interpretive exhibits, carefully interwoven with the site and the architecture, will provide all types of visitors with a greater understanding and appreciation of the IAF story and native features. Visitors to the park will leave with an increased knowledge, appreciation and stewardship ethic related to the environment. The Dry Falls Visitor Center has the potential to become the central hub of the Ice Age Floods Story and an invaluable resource to WSPRC.

# Section 9: Where Do We Go From Here?

## Dry Falls Visitor Center at the Centennial 2013

(The following is excerpted from *2009 - 2015 Washington State Parks & Recreation Commission Strategic Plan*)

### The Story of the Centennial 2013 Plan

In 2002, the Washington State Parks and Recreation Commission recognized the importance of its 100th anniversary in 2013 and saw it as an opportunity to chart a course for improving the park system that had suffered in previous decades from restricted budgets and intermittent funding cuts. The Commission recognized that funding challenges had resulted in some unfortunate consequences for visitors – things like seasonal park closures, loss of interpretive programs, lifeguards at beaches and loss of a youth conservation corps. In addition, stretching dollars to cover basic operations had resulted in deferred maintenance and equipment replacement statewide.

In 2003, the Commission took a bold step to create a vision for the future and began the arduous work of identifying park system needs. That year, they adopted the Centennial 2013 Plan, realizing that the impending 100th anniversary could provide a focal point for making needed improvements to turn the park system around and ensure a legacy of state parks in Washington. The plan focuses the Commission, policy-makers and the public on the common goal of getting the park system to where it could be. The strategic process used to help the Commission identify the plan's specifics included public outreach communications with the governor, legislature, local governments, tribes, user groups and statewide park staff.

### Centennial 2013 Vision

*"In 2013, Washington's state parks will be premier destinations of uncommon quality, including state and regionally significant natural, cultural, historical and recreational resources that are outstanding for the experience, health, en-*

*joyment and learning of all people."*

### The Priorities of Centennial 2013

Partly as the result of advice from the Governor and Legislature, the Commission has simplified the Centennial 2013 Plan and pitched its focus primarily on improving the parks enjoyed by the public today. However, the Commission also recognizes the importance of preserving parks, and facilities and upgrading and adding capacity to ensure a legacy of parks for the future, in a state that's been growing by approximately a million people a decade. The plan's message is centered on three simple priorities and a call to action to the public and communities to help with parks that are their particular favorites.

#### Priority No. 1 – Improve what we have

With help from the governor and legislature, your State Parks Commission commits to caring for and improving the high-quality state parks and recreation services you enjoy today, in six core areas: stewardship; enjoyment, health and learning; public service, facilities; partnerships and a financial strategy that leverages tax support with earned revenue and donations for operations.

#### Priority No. 2 – Upgrade existing parks, trails and services

With a blend of public and private dollars, the Commission aims to build capacity and upgrade existing parks, trails and services to meet increased demand in a fast-growing state.

#### Priority No. 3 – Work toward adding new parks, trails and services for the future

With a blend of public and private dollars, the Commission will work toward adding new trails and opening new parks, to ensure a parks and recreation legacy for future generations.

#### 100 Connections – A call to action

Citizens are asked provide additional help by donating their time, labor and funds to make 100 citizen gift improvements in parks all over the state. Park managers invite communities and organizations to donate time, labor and funds to help complete 100 improvement projects in parks all over the state. 100 Connection project examples: Playgrounds, kitchen shelters, interpretive features, trails and trailheads.

Every aspect of the agency is aligned with the Centennial 2013 Vision and Plan and 11 Centennial 2013 Goals adopted by the Commission to measure agency progress toward 2013. Agency goals are centered around stewardship; enjoyment, health and learning; public service; facilities; partnership; financial strategy; trails; undated and new parks; historic sites; interpretation and "100 Connections" projects intended to be completed with help from friends and donors.

As a part of the Centennial 2013 Plan, the Dry Falls Visitor Center Area Design is a priority for improvements in that it provides countless opportunities to employ all aspects of the Plan's 11 stated goals. Goal number 10 specifically states its objective as "Interpretation – Tell the Ice Age floods story . . . so that our state's dramatic geologic history is available to citizens." In 2003, the Commission began discussions with other agencies and organizations interested in working together to tell the story of the Ice Age Floods. The effort is of interest to tourism-oriented communities and educational groups. Because many of the most dramatic examples of the great floods are evidenced on State Parks lands, the agency has an opportunity to use its expertise in educating the public and sharing this important and unique story with citizens and out-of-state visitors. Much progress has been made to develop the sites where the Ice Age Floods story can be told and the programs that will entice and educate visitors. The work that has been completed to date, including this document, indicates the strong commitment that is being made to make this vision a reality. The following has



already been completed:

Ice Age Floods Interpretive Plan developed, 2005

Ice Age Floods Interpretive Plan completed and adopted by the Commission, 2006

Dry Falls Visitor Area Design; master planning completed and adopted by the Commission in 2009

More information about the 2013 Centennial Plan is available in the 2009 - 2015 Washington State Parks & Recreation Commission Strategic Plan can be found by accessing the following website:

<http://www.ofm.wa.gov/budget/manage/strategic/0911/465strategicplan.pdf>

## Support Leads to Progress

During the first six years work, steady progress has been made to meet the Centennial 2013 Goals, due to staff all over the state who have put their creativity and commitment toward this end, and due to budgets that have sustained staff activity. Underlying support also has come from friends groups, volunteers and important organizations such as the Washington State Parks Foundation, which has funded many activities and projects.

The Legislature, two governors and more than 2,500 organizations and individuals have endorsed Centennial 2013. Capital and Operating budgets in 2005-07 and 2007-09 provided increased funds to make significant progress on the plan. While budget reductions in 2009-2011 will require adjustments to goals and timelines, the Commission remains committed to Centennial 2013.

Additionally, in April of 2009, House Bill 2339 State Parks Donation passed in both Houses, was later signed by the Governor and took effect in July 2009. The bill requires the Department of Licensing to collect a donation to benefit the state parks system as part of motor vehicle registration unless a vehicle owner opts not to provide a donation. Most motor vehicles in the state are required to be registered with the Department of Licensing (DOL). Vehicle reg-

istrations must be renewed annually with the DOL, during which time the owner of the vehicle has the option to make a \$5 donation to the State Parks and Recreation Commission.

All donations collected through vehicle registration renewals are deposited into the State Parks Renewal and Stewardship Account. This account may be used to operate state parks, develop and renovate park facilities, undertake deferred maintenance, and accomplish other park purposes. This bill was implemented for the September 2009 vehicle registrations and renewals.