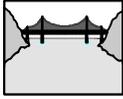
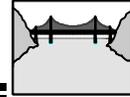


## Glossary

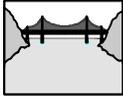
Term	Definition
assessment	1. the Columbia River comprehensive impact assessment <i>process</i> (project) 2. the product of the assessment process (assessment results or report)
Assessment Study Set	union of study sets for individual classes of entities over all classes of entities involved in the assessment
barriers	natural or manmade materials intended to contain or inhibit transport of contaminants during active management or after disposal
Candidate Containment Failure Scenarios Set	the set of all scenarios that could lead to containment failure; individual scenarios describe the progressive waste package degradation process and eventual loss of waste containment by the package
Candidate Contaminants Set	the set of all types of radioisotopes and chemicals that could cause harmful effects to humans, ecosystems, or cultures
Candidate Cultural Dependency Webs Set	the set of all networks that result in damage to cultural practices and institutions
Candidate Dose Attributes Set	the set of dose attributes needed to characterize the ability of doses of radiation and harmful chemicals to produce harmful effects
Candidate Dose Measures Set	the set of measures needed to provide a quantitative relationship between exposures and impacts to be assessed
Candidate Exposure Mechanisms Set	the set of mechanisms that result in contact between harmful contaminants and receptors
Candidate Habitat Features Set	the set of habitat features needed to characterize conditions for contact between harmful contaminants and biota
Candidate Habitat Locations Set	the set of habitat regions that potentially are sites for contact between harmful chemicals or radionuclides and biota
Candidate Impact Set	the set of impacts that must be considered for assessment
Candidate Inventories Set	the set of all identifiable masses of materials and contaminants that could cause harmful effects to humans, ecosystems, or cultures
Candidate Pathways Set	the set of all networks of biological interactions that result in transfer of harmful contaminants between receptors
Candidate Receptors Set	the set of receptors that could potentially be the subjects of harm from Hanford contaminants, either directly or indirectly
Candidate River Entry Location Set	the set of river entry regions that are potential sources of harmful contaminants in the river
Candidate River Holdup Location Set	the set of regions in the river where potential exists to accumulate inventories of harmful chemicals and radionuclides; that is, where contaminant transport downstream is retarded relative to the flow of water
Candidate Scenarios Set	the set of scenarios that have potential to alter conditions at the river over the time period of the assessment



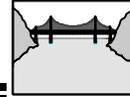
<b>Term</b>	<b>Definition</b>
Candidate Set	a compilation of all relevant factors assembled in accordance with criteria that ensure demonstrable completeness
Candidate Transport Paths Set	the set of all ways for dangerous materials to move into the Columbia River
Columbia River watershed	the portion of North America where surface water and/or groundwater flows and ends up in the Columbia River
containment	a structure or system designed to prevent the release of radioactive materials or hazardous chemicals
containment failure	the condition that occurs when the disposal waste package no longer prevents migration of contaminants beyond its boundaries
Containment Failure Scenarios Study Set	a subset of the Candidate Containment Failure Scenarios Set; the set of containment failure scenarios to be used in the assessment
contaminant release	the condition in which disposed contaminants reach a position beyond the boundaries of the disposal waste package
contaminants	radioactive or hazardous chemicals that could cause harmful effects to humans, ecosystems, or cultures and that are out of containment/isolation
Contaminants Study Set	a subset of the Candidate Contaminants Set; the set of contaminants to be used at a given assessment iteration
Critical Habitat & Uptake Location Set	a subset of the Candidate Habitat Locations Set; the set of habitat and uptake locations to be used at a given assessment iteration
Cultural Dependency Webs Study Set	a subset of the Candidate Cultural Dependency Webs Set; the set of cultural dependency webs to be used at a given assessment iteration
dominant uptake locations	locations where the largest current or future dose contributions occur for any given species or human life style
dose	1. uptake and retention of toxic chemicals and radionuclides by humans and biota 2. the effective quantity of ionizing radiation deposited in humans and biota
Dose Attributes Study Set	a subset of the Candidate Dose Attributes Set; the set of dose attributes to be used at a given assessment iteration
Dose Measures Study Set	a subset of the Candidate Dose Measures Set; the set of dose measures to be used at a given assessment iteration
entry locations	locations where groundwater enters the Columbia River



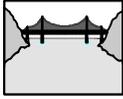
Term	Definition
ethno-habitat	A healthy ethno-habitat is one that supports its natural plant and animal communities and sustains the biophysical and spiritual health of its native people. Ethno-habitats, which often include public lands, serve to help sustain modern Indian peoples' way of life, cultural integrity, social cohesion, and socio-economic well-being. Ethno-habitats are places defined and understood by groups of people within the context of their culture. These lands encompass traditional Indian homelands, places, habitats, resources, ancestral remains, cultural symbols, and cultural heritage. They are landscapes with culturally familiar features defined by cultural knowledge and experience, and have also been called eco-cultural landscapes and sacred geographies. The presence of healthy habitats is fundamental to useable and harvestable levels of resources significant to Indian people as well as to healthy ecosystems. Ethno-habitats that are places where useable quantities of culturally significant species may be obtained often overlap with ecologically defined areas, although the species and their number and quality are often defined differently than European taxonomic systems would define them. Larger ethno-habitats can include multiple interconnected ecosystems, discrete geographical and seasonal use areas, and access corridors.
exposure	contact with both materials taken into the body through inhalation or ingestion and with materials on the outside of the body, as from submersion in water or immersion in air
exposure mechanism	particular conditions of contact between receptors and contaminants that determine the rate of uptake and total uptake by receptors
Exposure Mechanisms Study Set	a subset of the Candidate Exposure Mechanisms Set; the set of exposure mechanisms to be used for a given assessment iteration
flux (of water or contaminants)	the local mass velocity (of water or contaminants) across a surface at a particular location on that surface; for example, flow through the river bottom; an example of the units of flux is $\text{Kg/m}^2/\text{sec}$
form of isolation	the engineered material serving as an engineered barrier around a waste form, but not a waste form itself; waste packaging
geochemistry	chemical interactions between contaminants and geologic media, particularly those affecting contaminant transport
geologic features	geologic media and structures that could potentially affect contaminant transport
groundwater	not surface water (includes vadose zone moisture and perched saturated zones)
groundwater inventories	identifiable masses of contaminants contained in groundwater
Hanford Disposition baseline	the set of all engineered isolation concepts for Hanford materials and contaminants
harmful effects	effects on humans, ecosystems, and cultures that are undesirable from the viewpoint of those impacted



<b>Term</b>	<b>Definition</b>
harmful impact	same as harmful effects
human intrusion	human contact with disposed waste, either inadvertently or intentionally
intruder	humans and biota that contact disposed waste following waste site closure and possibly transport it into the accessible environment; human intruders may be either inadvertant or intentional
Inventories Study Set	a subset of the Candidate Inventories Set; the set of inventories to be used for a given assessment iteration
isolation form attributes	performance parameters for waste forms
Limiting Scenarios Set	a subset of the Candidate Scenarios Set; the set of scenarios to be used for a given assessment iteration
materials	contained or isolated inventories of radioactive materials or chemicals that could cause harmful effects to humans, ecosystems, or cultures; see “contaminants” for inventories that are not isolated
Pathways Study Set	a subset of the Candidate Pathways Set; the set of pathways to be used for a given assessment iteration
receptors	humans, human population groups, biota, ecosystems, socio-economic groups, and cultures that could potentially be impacted by Hanford contaminants, either at the river or by coming into contact with river resources away from the river
Receptors of Concern Set	the set of receptors that are of concern to stakeholders; a subset of the Selected Receptors Set
responsible agency	entity that is legally liable for management of contaminants
retardation	the relative velocity of a contaminant flow compared with corresponding groundwater flow, usually expressed by the coefficient $K_d$
riparian zone	land region adjacent to Columbia River and tributaries encompassing the riparian ecosystem; see “riparian ecosystem” in Part I Glossary
River Entry Location Study Set	a subset of the Candidate River Entry Location Set; the set of river entry locations to be used for a given assessment iteration
River Holdup Location	locations in the river system where contaminants are held and can accumulate; an example is contaminated sediment in McNary Pool
River Holdup Location Study Set	a subset of the Candidate River Holdup Location Set; the set of river holdup locations to be used for a given assessment iteration



Term	Definition
sediment	solid material that may be suspended in or settle to the bottom of a liquid; solid fragments of inorganic or organic material that come from the weathering of rock, erosion of soils, or other manmade sources, and are carried and deposited by wind, water, or ice
Selected Impact Set	a subset of the Candidate Impact Set; the set of impacts to be assessed by a given assessment iteration
Selected Receptors Set	a subset of the Candidate Receptors Set; the set of receptors to be used for a given assessment iteration
set	a collection of entities; see “Candidate Set” and “Study Set”
shallow land burial sites	waste disposal facilities between the land surface and 30 meters below the land surface
shoreline A-3	the soils, gravel, silts, and other earthen materials and biological species that are part of the accessible environment and lie within the riparian zone
socio-cultural impacts	<p>term includes community well-being, social cohesion, institutional factors, cultural and religious well-being, and a number of factors related to the particular place or resource such as the following:</p> <ol style="list-style-type: none"> <li>1. access to or use of a place or resource (duration of loss, percentile of loss relative to original conditions, residual quality if partially lost or not fully restored)</li> <li>2. community well-being and social and family cohesiveness maintained through use of the place or resource</li> <li>3. everyday life and material implements derived from the place or resource, and living and social activities and practices associated with the place or resource</li> <li>4. religious, ceremonial well-being gained through use of the place or resource</li> <li>5. other uses of the site or resource such as education or art</li> <li>6. intergenerational continuity in knowledge, language, traditions, values, and education related to the place or resource</li> </ol> <p>Physical integrity of historical or cultural resources located in the place or associated with use of the resource.</p>



Term	Definition
socio-economic impacts	<p>term includes economic and trade impacts, including impacts on non-market trade networks applicable to native communities. In addition to the common analysis of impacts to jobs and civic or community services, such impacts can include the following:</p> <ol style="list-style-type: none"> <li>1. economic impacts of losing the place or resource (direct impacts of commercial, trade, jobs, services, and avoidance costs)</li> <li>2. replacement costs (duration of loss x annual cost x quality and convenience of replacement, x proportion of community members affected by the loss)</li> <li>3. other costs of avoiding exposure</li> <li>4. other costs of “intangibles” and “externalities” using contingency valuation methods without discounting</li> </ol> <p>Costs to future generations, such as monitoring and surveillance costs, or increased remediation and restoration costs if contamination spreads or the resource is impaired. Permanent loss may mean infinite costs or requirements for permanent mitigation.</p>
sorption	absorption and/or adsorption (of contaminants)
Study Set	<p>a subset of the corresponding candidate set that is to be used for the assessment analysis. Elements of the study set are to be represented explicitly in the assessment analysis. It is uniquely defined for one or more iterations of the assessment analysis. An example is the Contaminants Study Set, which is a subset of the Candidate Contaminants Set. Another example is the Inventories Study Set, which is a subset of the Candidate Inventories.</p>
transport mechanisms	phenomena causing movement of contaminants to and within the Columbia River environment, including movement related to river water usage
transport models	representations of motion and local concentration of contaminants and carriers, such as water, from sources on the Hanford Site to and within the Columbia River
Transport Paths Study Set	the set of transport paths for water and associated contaminants between their sources and the Columbia River or final destination or use that will be used for the assessment; routes taken and associated geologic features encountered
vadose zone	geologic zone between the land surface and the saturated groundwater zone
waste form	waste “package” and chemical form of package contents used for final disposal of material and contaminant inventories