

Regulating Ecosystem Services	Provisioning Ecosystem Services	Cultural Ecosystem Services
<p><b>Regulation of physical, chemical, biological conditions</b></p> <p><b>Regulation of baseline flows and extreme events</b></p> <ul style="list-style-type: none"> <li>▪ Wind erosion reduction and prevention</li> <li>▪ Hydrological cycle and water flow regulation (Including flood control) <ul style="list-style-type: none"> <li>○ Regulation of surface water level and runoff</li> <li>○ Regulation of groundwater level</li> </ul> </li> <li>▪ Water accumulation and retention (incl. flood protection)*</li> <li>▪ Protection from soil erosion*</li> <li>▪ Reduction of wind speed; wind protection*</li> <li>▪ Fire protection*</li> </ul> <p><b>Lifecycle maintenance, habitat, and gene pool protection</b></p> <ul style="list-style-type: none"> <li>▪ Pollination*</li> <li>▪ Seed dispersal*</li> <li>▪ Maintaining nursery populations and habitats*</li> <li>▪ Biotic production</li> </ul> <p><b>Pest and disease control</b></p> <ul style="list-style-type: none"> <li>▪ Pest control and reduction of the spread of invasive species*</li> <li>▪ Prevention and reduction of diseases*</li> </ul> <p><b>Regulation of soil quality</b></p> <ul style="list-style-type: none"> <li>▪ Soil formation*</li> <li>▪ Soil purification and fertility*</li> <li>▪ Soil moisture regulation*</li> <li>▪ Mediation of weathering processes*</li> <li>▪ Decomposition and fixing processes*</li> </ul> <p><b>Regulation of water quality</b></p> <ul style="list-style-type: none"> <li>▪ Regulation of the chemical and physical quality of freshwater in surface waters (standing and flowing) <ul style="list-style-type: none"> <li>○ Water purification</li> </ul> </li> <li>▪ Regulation of the chemical and physical quality of groundwater</li> </ul> <p><b>Regulation of air/atmosphere quality and climate regulation</b></p> <ul style="list-style-type: none"> <li>▪ Microclimate regulation (e.g. cooling)</li> <li>▪ Filtration and purification of air</li> <li>▪ Air humidity regulation</li> <li>▪ Carbon sequestration (reduction of anthropogenic CO2 emissions)</li> <li>▪ Oxygen production</li> </ul> <p><b>Transformation of biochemical or physical inputs</b></p> <p><b>Mediation of wastes or toxic substances of anthropogenic origin</b></p> <ul style="list-style-type: none"> <li>▪ Bioremediation/cleaning by (micro-) organisms*</li> <li>▪ Filtration, accumulation, storage by (micro-) organisms*</li> </ul> <p><b>Mediation of nuisances of anthropogenic origin</b></p> <ul style="list-style-type: none"> <li>▪ Smell reduction*</li> <li>▪ Noise attenuation*</li> <li>▪ Visual screening*</li> </ul>	<p><b>Biomass</b></p> <p><b>Nutritional use</b></p> <ul style="list-style-type: none"> <li>▪ Diversity of food (e.g. fish, mushrooms)</li> <li>▪ Non-timber forest products (berries, mushrooms, medical herbs, nuts) for both private and commercial use</li> <li>▪ Hunting and fishing resources</li> <li>▪ Birch juice</li> <li>▪ Organic products</li> <li>▪ Honey (beekeeping)</li> <li>▪ Agricultural produces (crops/grains/vegetables)</li> <li>▪ Meat and dairy products by livestock breeding</li> <li>▪ Site-specific plants and animals</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>▪ Building and construction materials (reed, straw etc.)</li> <li>▪ Construction wood</li> <li>▪ Timber</li> <li>▪ Hay</li> <li>▪ Fur</li> <li>▪ Gardening and horticulture products</li> <li>▪ Flowers and plants</li> </ul> <p><b>Energetic use</b></p> <ul style="list-style-type: none"> <li>▪ Fuelwood / Firewood</li> <li>▪ Biofuels</li> </ul> <p><b>Fundamental goods</b></p> <ul style="list-style-type: none"> <li>▪ Fresh and clean air</li> <li>▪ Fresh and clean (drinking) water</li> </ul> <p><b>Genetic material from all types of organisms*</b></p> <ul style="list-style-type: none"> <li>▪ Seeds, spores, and other plant materials collected for maintaining or establishing a population*</li> <li>▪ Individual plants used to breed new strains or varieties*</li> <li>▪ Individual genes extracted from plants for the design and construction of new biological entities*</li> <li>▪ Animal material collected to maintain or establish a population*</li> <li>▪ Wild animals (whole organisms) used to breed new strains or varieties*</li> <li>▪ Individual genes extracted from organisms for the design and construction of new biological entities*</li> </ul>	<p><b>Direct outdoor interactions with living/ecological systems in their natural setting</b></p> <p><b>Physical and intellectual interactions with biota, ecosystems, and landscapes</b></p> <ul style="list-style-type: none"> <li>▪ Place for living</li> <li>▪ (Green) tourism</li> <li>▪ Hunting and fishing</li> <li>▪ Recreation (e.g. in the forest) and sports (swimming etc.)</li> <li>▪ Ecological education and scientific research <ul style="list-style-type: none"> <li>○ Possibility to observe ecosystems in virgin states</li> <li>○ Dendrochronology</li> </ul> </li> <li>▪ Bird/animal watching</li> <li>▪ Source/Place of inspiration</li> <li>▪ Nature filming</li> <li>▪ Arts (photography/painting)</li> </ul> <p><b>Spiritual, symbolic, and other interactions with biota, ecosystem, and landscapes</b></p> <ul style="list-style-type: none"> <li>▪ Aesthetic value*</li> <li>▪ Spiritual value*</li> <li>▪ Traditional and cultural value*</li> <li>▪ Ethnic, traditional crafts</li> </ul>

Table 1: Desnianskyi BR Ecosystem Services; Classification based on CICES, Haines-Young & Potschin (2017), contents by workshop participants

\*added by the author based on CICES