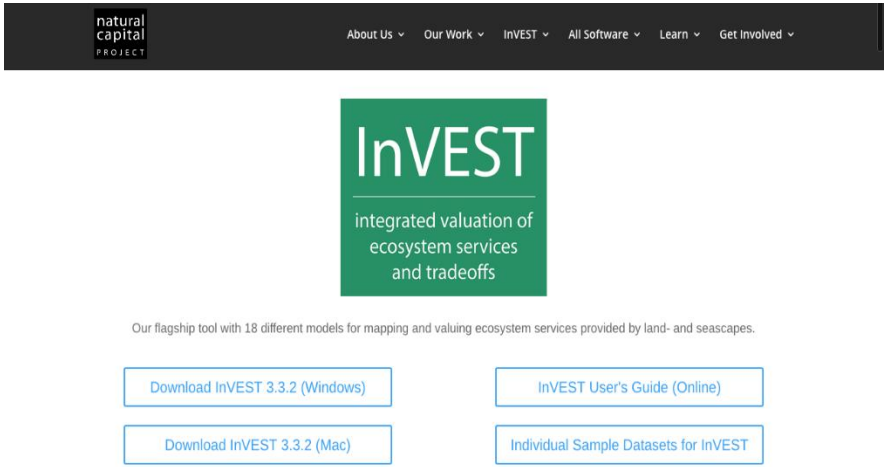
Ekosistēmu pakalpojumu novērtēšanas/ teritoriju plānošanas rīki

Dr. Paed., Aija Peršēvica
Biedrība Baltijas krasti
aija.persevica@baltijaskrasti.lv

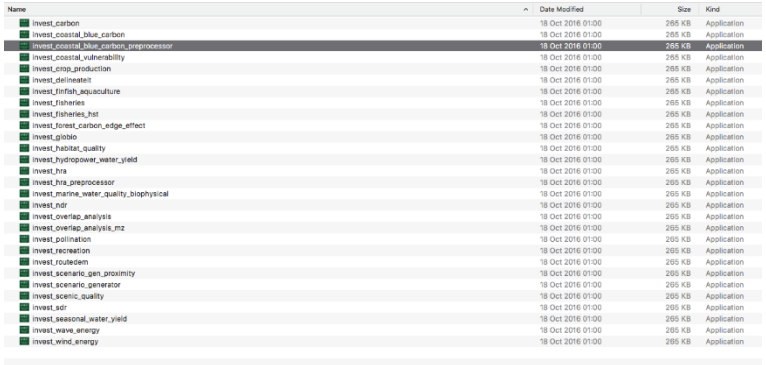
InVEST

Mērķis ir novērtēt, kā cilvēka darbības un klimata pārmaiņas ietekmē ražošanu un vērtību sauszemes un jūras ekosistēmu pakalpojumiem

http://www.naturalcapitalproject.org/invest/#hat-is-invest



InVest Datu bāze



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invest_carbon	18 Oct 2016 01:00	265 KB	Application
invest_coastal_blue_carbon	18 Oct 2016 01:00	265 KB	Application
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invest_delineateit	18 Oct 2016 01:00	265 KB	Application
invest_finfish_aquaculture	18 Oct 2016 01:00	265 KB	Application
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invest_fisheries_hst	18 Oct 2016 01:00	265 KB	Application
invest_forest_carbon_edge_effect	18 Oct 2016 01:00	265 KB	Application
invest_globio	18 Oct 2016 01:00	265 KB	Application
invest_habitat_quality	18 Oct 2016 01:00	265 KB	Application
invest_hydropower_water_yield	18 Oct 2016 01:00	265 KB	Application
invest_hra	18 Oct 2016 01:00	265 KB	Application
invest_hra_preprocessor	18 Oct 2016 01:00	265 KB	Application
invest_marine_water_quality_biophysical	18 Oct 2016 01:00	265 KB	Application
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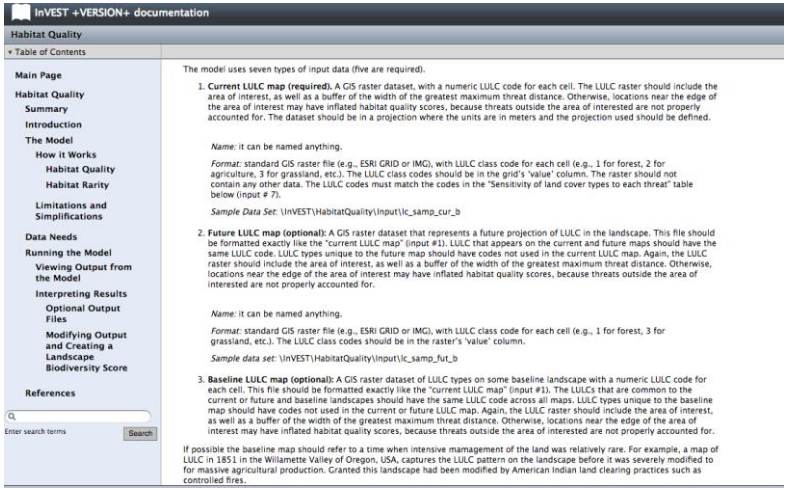

InVEST +VERSION+ documentation

Habitat Quality

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The model uses seven types of input data (five are required).

1. **Current LULC map (required).** A GIS raster dataset, with a numeric LULC code for each cell. The LULC raster should include the area of interest, as well as a buffer of the width of the greatest maximum threat distance. Otherwise, locations near the edge of the area of interest may have inflated habitat quality scores, because threats outside the area of interested are not properly accounted for. The dataset should be in a projection where the units are in meters and the projection used should be defined.

   Name: it can be named anything.

   Format: standard GIS raster file (e.g., ESRI GRID or IMG), with LULC class code for each cell (e.g., 1 for forest, 2 for agriculture, 3 for grassland, etc.). The LULC class codes should be in the grid's 'value' column. The raster should not contain any other data. The LULC codes must match the codes in the "Sensitivity of land cover types to each threat" table below (input # 7).

   Sample Data Set: \InVEST\HabitatQuality\Input\lc_samp_cur_b

2. **Future LULC map (optional):** A GIS raster dataset that represents a future projection of LULC in the landscape. This file should be formatted exactly like the "current LULC map" (input #1). LULC that appears on the current and future maps should have the same LULC code. LULC types unique to the future map should have codes not used in the current LULC map. Again, the LULC raster should include the area of interest, as well as a buffer of the width of the greatest maximum threat distance. Otherwise, locations near the edge of the area of interest may have inflated habitat quality scores, because threats outside the area of interested are not properly accounted for.

   Name: it can be named anything.

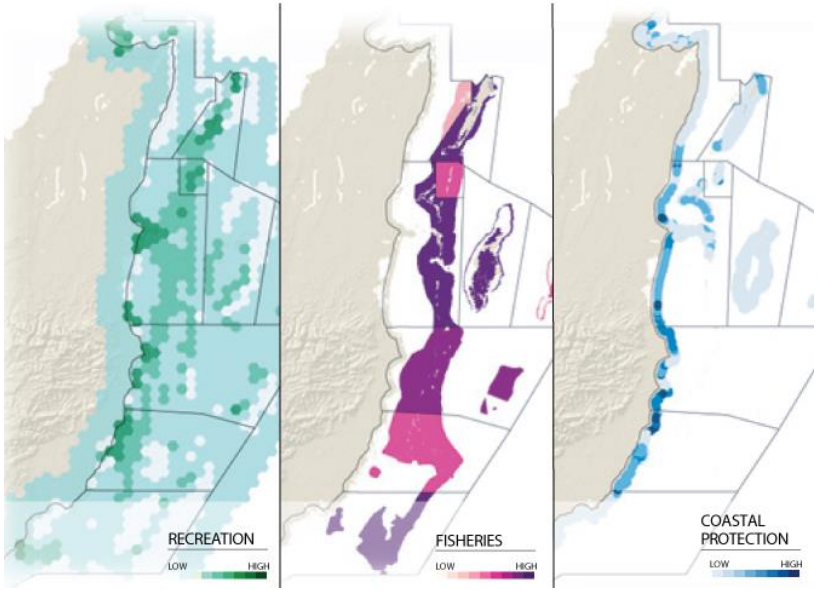
   Format: standard GIS raster file (e.g., ESRI GRID or IMG), with LULC class code for each cell (e.g., 1 for forest, 3 for grassland, etc.). The LULC class codes should be in the raster's 'value' column.

   Sample data set: \InVEST\HabitatQuality\Input\lc_samp_fut_b

3. **Baseline LULC map (optional):** A GIS raster dataset of LULC types on some baseline landscape with a numeric LULC code for each cell. This file should be formatted exactly like the "current LULC map" (input #1). The LULCs that are common to the current or future and baseline landscapes should have the same LULC code across all maps. LULC types unique to the baseline map should have codes not used in the current or future LULC map. Again, the LULC raster should include the area of interest, as well as a buffer of the width of the greatest maximum threat distance. Otherwise, locations near the edge of the area of interest may have inflated habitat quality scores, because threats outside the area of interested are not properly accounted for.

If possible the baseline map should refer to a time when intensive mamagement of the land was relatively rare. For example, a map of LULC in 1851 in the Willamette Valley of Oregon, USA, captures the LULC pattern on the landscape before it was severely modified to for massive agricultural production. Granted this landscape had been modified by American Indian land clearing practices such as controlled fires.

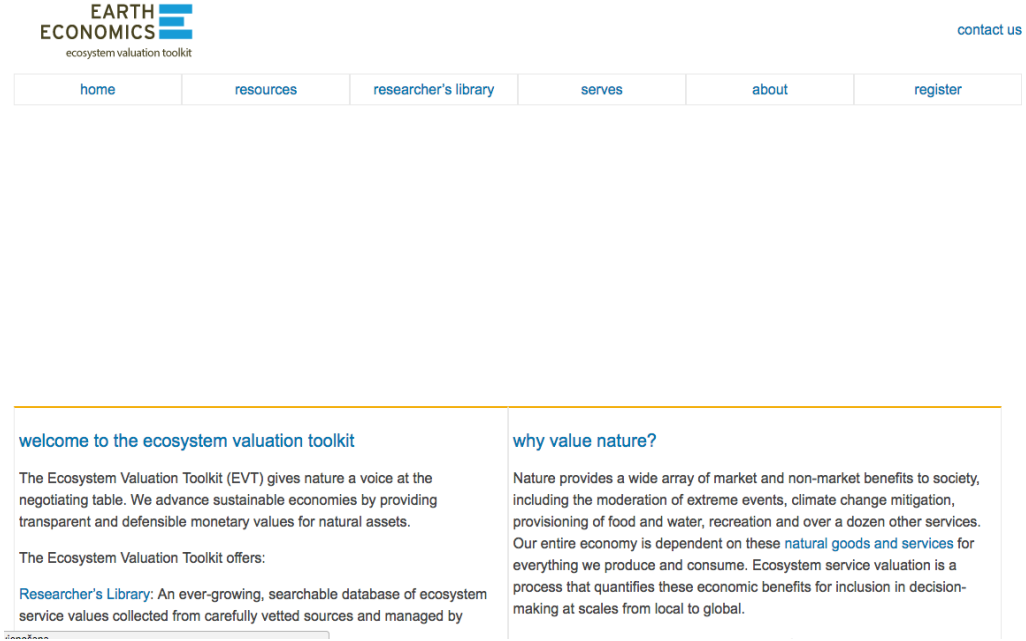
InVest Rezultāti



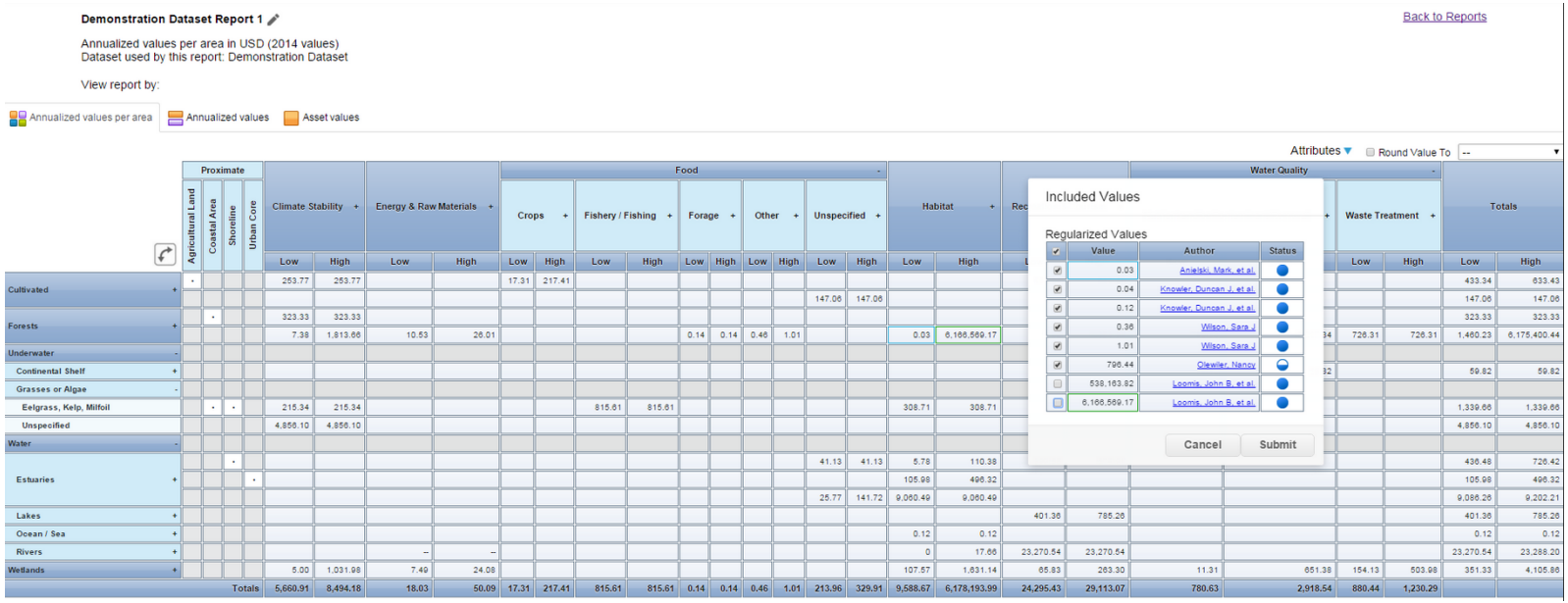
Data Requirements and Outputs Summary Table

InVEST Data and Model Inventory				
	Step	**Data requirements**	**Process**	**Outputs**
Biodiversity: Habitat Quality and Rarity (Tier 0)				
Required	**Supply**	Current Land use/land cover Threat impact distance Relative threat impact weights Form of threat decay function Threat maps Habitat suitability (optional: by species group) Habitat sensitivity to threats Half saturation constant	Calculate habitat quality and degradation based on threat intensity and sensitivity	Habitat degradation index; Habitat quality index
Optional	**Supply**	Protected status	Calculates rarity of current and/or future habitat types relative to baseline; calculates quality and degradation of baseline based on threat intensity and sensitivity	Relative habitat rarity index for current and/or future land use/land cover; Degradation and quality for baseline
		Baseline land use/land cover		
		Future land use/land cover	Calculates quality and degradation of future scenario based on threat intensity and sensitivity; optionally calculates habitat rarity relative to baseline	Habitat degradation, quality and optionally rarity for future scenario
Carbon Storage and Sequestration				
Required	**Service**	Land use/land cover Carbon in aboveground biomass Carbon in belowground biomass Carbon in dead organic matter Carbon in soil	Looks up carbon stock(s) per pixel	Total carbon stock (Mg/pixel)
Optional	**Service**	Carbon removed via timber harvest First year of timber harvest Harvest frequency Half life of harvested wood products Carbon density in harvested wood Biomass conversion expansion factor	Calculates carbon stored in harvested wood products per pixel	Total carbon stock, including that in HWP (Mg/pixel)
		Future land use/land cover	Calculates difference between carbon stocks	Carbon sequestration rates (Mg/pixel/yr)
Optional	**Value**	Value of sequestered carbon Discount rate Timespan Annual rate of change in price of carbon	Calculates value of carbon	Value of sequestered carbon (currency/pixel/yr)
Hydropower Production (Tier 1)				
Required	**Supply**	Land use/land cover Mean annual precipitation (mm) Mean annual reference evapotranspiration (mm) Plant available water content (fraction) Evapotranspiration coefficient Root depth (mm) Effective soil depth (mm) Seasonality factor	Calculates pixel level yield as difference between precipitation and actual evapotranspiration	Mean annualyield (mm/watershed/yr, mm/pixel/yr)

The Ecosystem Valuation Toolkit (EVT) Ekosistēmu ekonomiskās vērtēšanas rīks – paredz arī aprēķinu veikšanu http://esvaluation.org/



The Ecosystem Valuation Toolkit (EVT) SERVES - (Simple and Effective Resource for Valuing Ecosystem Services) http://esvaluation.org/



Demonstration Dataset Report 1

Annualized values per area in USD (2014 values)
Dataset used by this report: Demonstration Dataset

View report by:

Annualized values per area | Annualized values | Asset values

Back to Reports

Attributes | Round Value To --

	Proximate				Climate Stability		Energy & Raw Materials		Food										Habitat		Water Quality		Waste Treatment		Totals	
	Agricultural Land	Coastal Area	Shoreline	Urban Core					Crops		Fishery / Fishing		Forage		Other		Unspecified									
					Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High			Low	High	Low	High
Cultivated	•				253.77	253.77			17.31	217.41															433.34	633.43
																	147.06	147.06							147.06	147.06
Forests		•			323.33	323.33																			323.33	323.33
					7.38	1,813.66	10.53	26.01					0.14	0.14	0.46	1.01			0.03	6,166,569.17			726.31	726.31	1,460.23	6,175,400.44
Underwater																										
Continental Shelf																									59.82	59.82
Grasses or Algae																										
Eelgrass, Kelp, Milfoil		•	•		215.34	215.34					815.61	815.61							308.71	308.71					1,339.66	1,339.66
Unspecified					4,856.10	4,856.10																			4,856.10	4,856.10
Water																										
Estuaries			•														41.13	41.13	5.78	110.38					436.48	726.42
				•															105.98	496.32					105.98	496.32
																	25.77	141.72	9,060.49	9,060.49					9,086.26	9,202.21
Lakes																					401.36	785.26			401.36	785.26
Ocean / Sea																			0.12	0.12					0.12	0.12
Rivers							–	–											0	17.66	23,270.54	23,270.54			23,270.54	23,288.20
Wetlands					5.00	1,031.98	7.49	24.08											107.57	1,631.14	65.83	283.30	11.31	651.38	154.13	503.98	351.33	4,105.86
Totals					5,660.91	8,494.18	18.03	50.09	17.31	217.41	815.61	815.61	0.14	0.14	0.46	1.01	213.96	329.91	9,588.67	6,178,193.99	24,295.43	29,113.07	780.63	2,918.54	880.44	1,230.29		

Included Values

Regularized Values

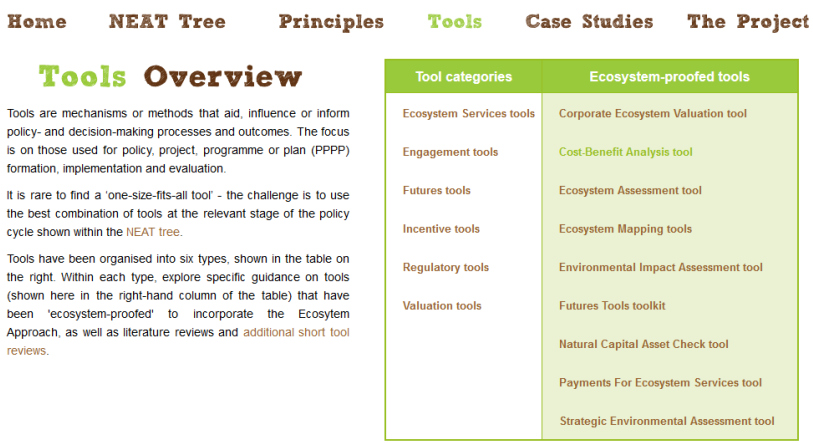
	Value	Author	Status
☑	0.03	Anielski, Mark, et al.	
☑	0.04	Knowler, Duncan J. et al.	
☑	0.12	Knowler, Duncan J. et al.	
☑	0.36	Wilson, Sara J.	
☑	1.01	Wilson, Sara J.	
☑	796.44	Olewiler, Nancy	
☐	538,163.82	Loomis, John B. et al.	
☐	6,166,569.17	Loomis, John B. et al.	

Cancel | Submit

NEAT Tree Nacionālais ekosistēmu novērtēšanas rīks (UK)

Nodrošina instrumentus, kas ļauj pieņemt pārskatāmus, uz pierādījumiem un sadarbību balstītus lēmumus.

http://neat.ecosystemsknowledge.net/index.html



NEAT Tree Nacionālais ekosistēmu novērtēšanas rīks (UK) http://neat.ecosystemsknowledge.net/index.html

National Ecosystem Approach Toolkit

Valuation Tools

Decisions are generally conceived of as choices and trade-offs between competing alternatives across environmental, social and economic priorities. Such choices often require some form of valuation to reveal the relative weights given to aspects of a decision. One of the main aims of valuing ecosystem services is to make the overlooked and 'hidden' values of nature explicit.

Many valuation tools are still under development. Divergent applications and hybrid forms such as 'social multi-criteria evaluation' or 'deliberative mapping' are evolving. This makes the selection of valuation tools both complex and a crucial element of any decision-making process. To ensure that the application of valuation tools provides robust and reliable outcomes it should be mandatory that tools are not just applied by experts, but also well written up and reported, including a critical and transparent interpretation covering limitations and caveats.

Read a short literature review about Valuation tools

Read a full literature review about Valuation tools (with reference list)

Read the 'Shared and cultural values assessment handbook'

Specific guidance has been developed to incorporate the Ecosystem Approach within the following Valuation tools:

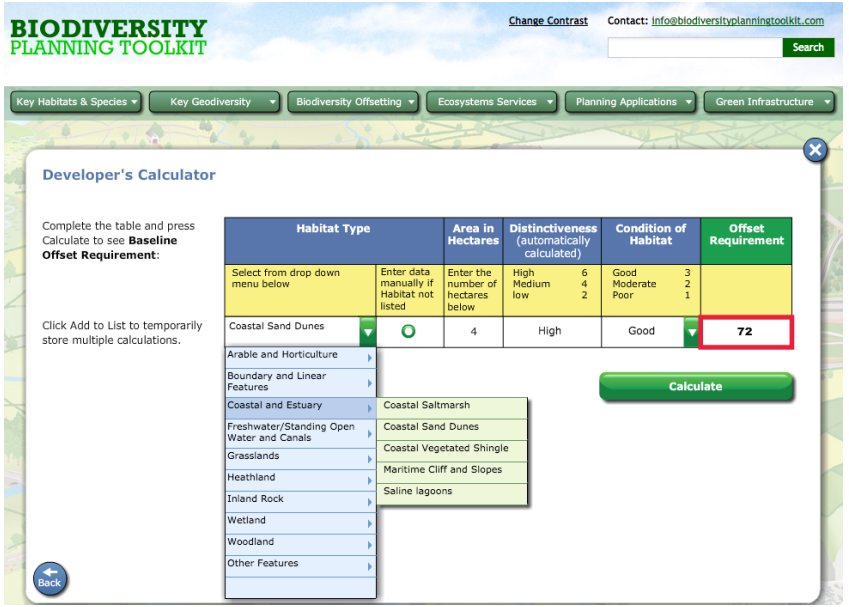
- Corporate Ecosystem Valuation
- Cost-Benefit Analysis

Additional short reviews of Valuation tools

Bioloģiskās daudzveidības plānošas rīks

Mērķis ir palīdzēt lietotājiem iekļaut daudzveidību plānošanas sistēmā.

http://www.biodiversityanningtoolkit.com/default.asp



Latvijā http://www.toolkit.balticclimate.org/