

Ministry of Environmental
Protection and Regional
Development
Republic of Latvia

Latvian experiences working with input data for Latvian MSP

Spatial planning and land management department
Spatial planning policy unit
Senior expert
Mārtiņš Grels

25th March 2021



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Republic of Latvia

Latvian MSP

- ✓ Coverage - all Latvian marine waters
- ✓ Timeframe – up to 2030
- ✓ Use of best available data sources:
 - 1. National data**
 - 2. Transnational data and cooperation project data**
 - 3. Still there are data gaps**

USES OF THE SEA

SCALE 1:250 000

LEGEND

PROTECTED AREAS

- Green shaded area: Areas reserved for shipping (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806,



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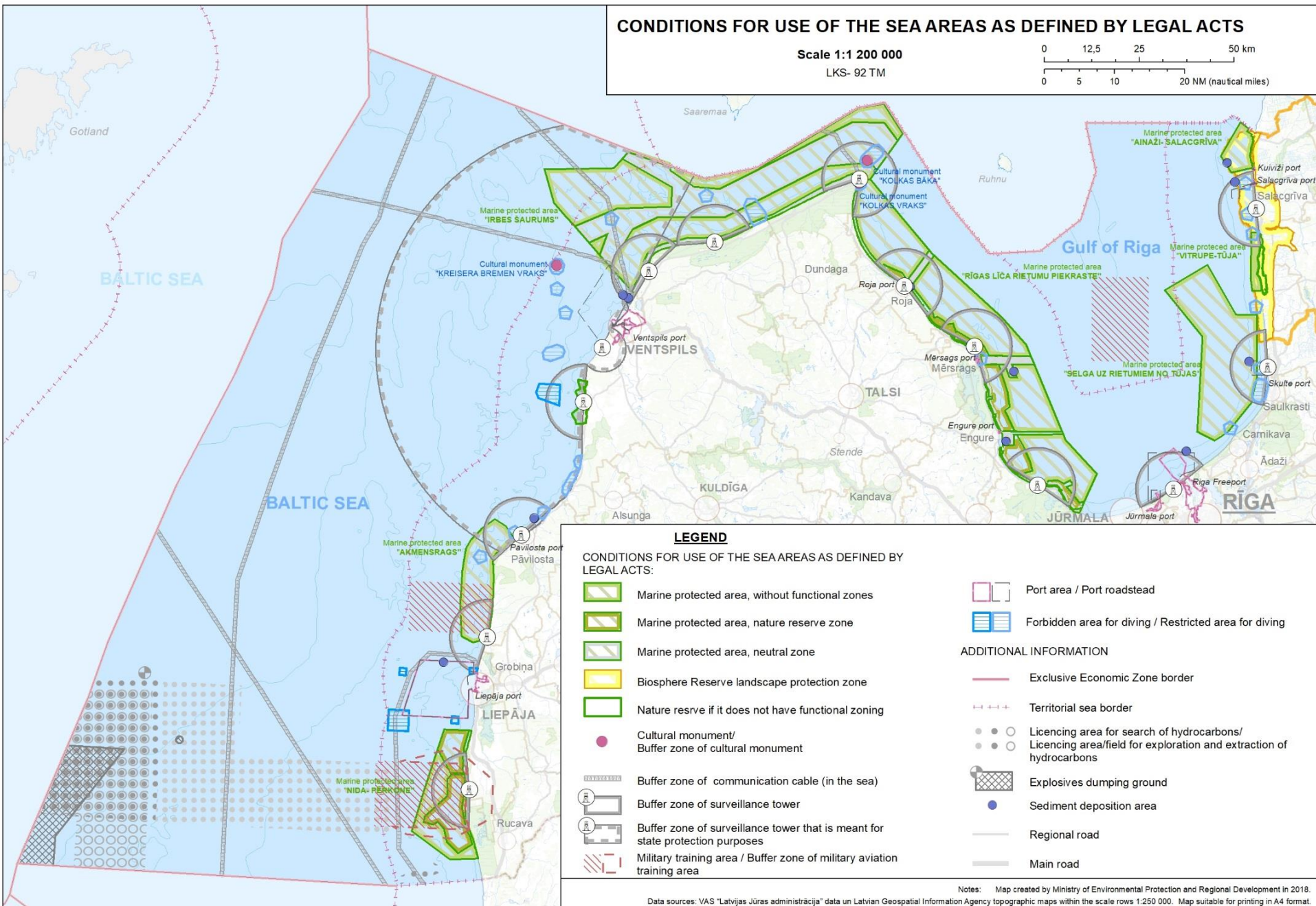
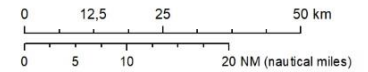
National data sets used

- ✓ Conditions for sea use set in legislation, including defense interests
- ✓ Depth of marine waters
- ✓ Seabed sediment data
- ✓ Ecosystem services data
- ✓ Fish spawning & catch data
- ✓ Coastal and marine tourism data
- ✓ Proposals for offshore wind farm (OWF) licensing areas
- ✓ Energy transmission infrastructure (on land)
- ✓ etc.

CONDITIONS FOR USE OF THE SEA AREAS AS DEFINED BY LEGAL ACTS

Scale 1:1 200 000

LKS- 92 TM





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Depth data

LEGEND

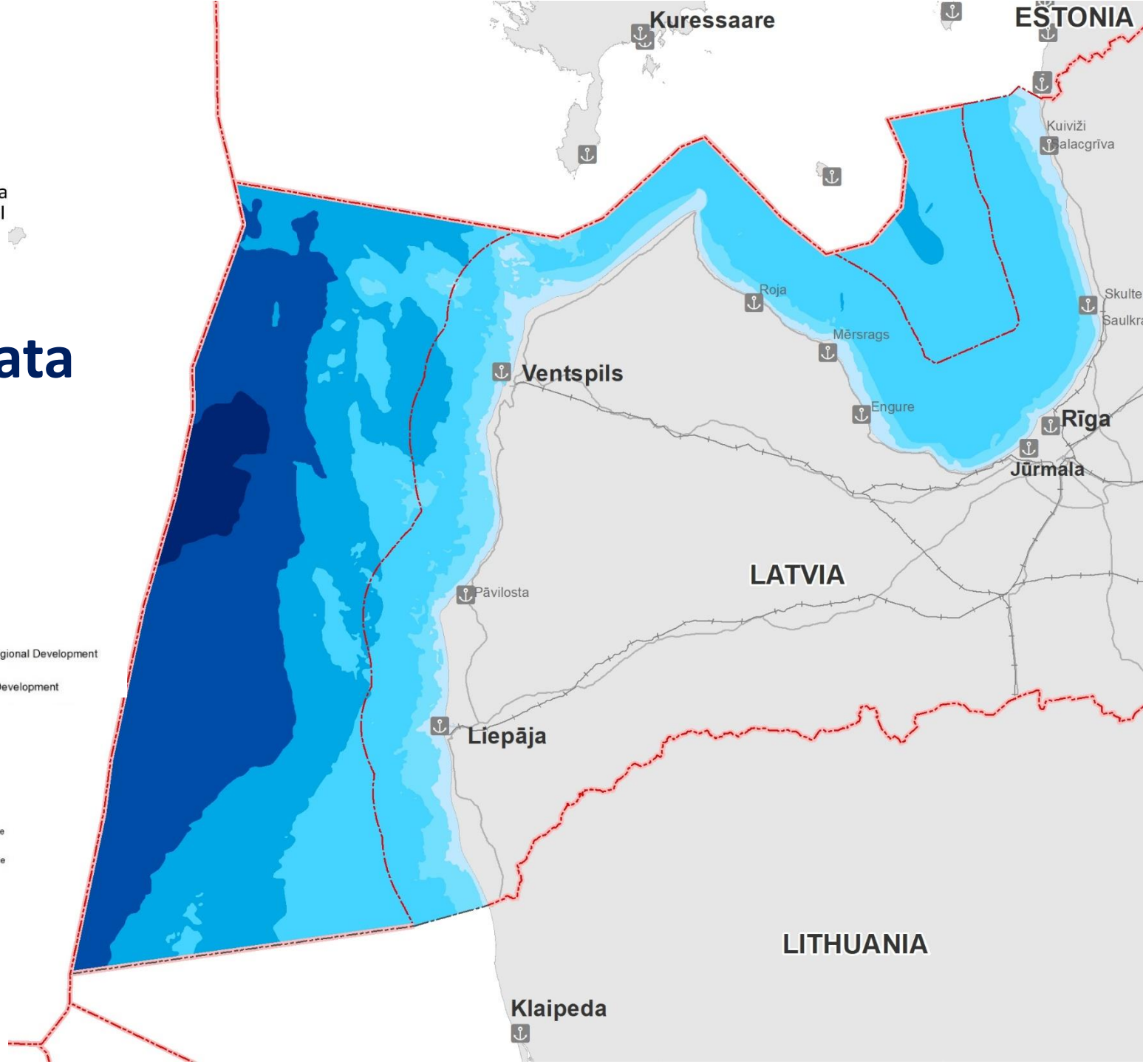
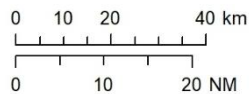
Depth (m)

- 0-10
- 10-20
- 20-50
- 50-100
- 100-200
- >200

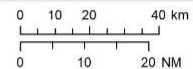
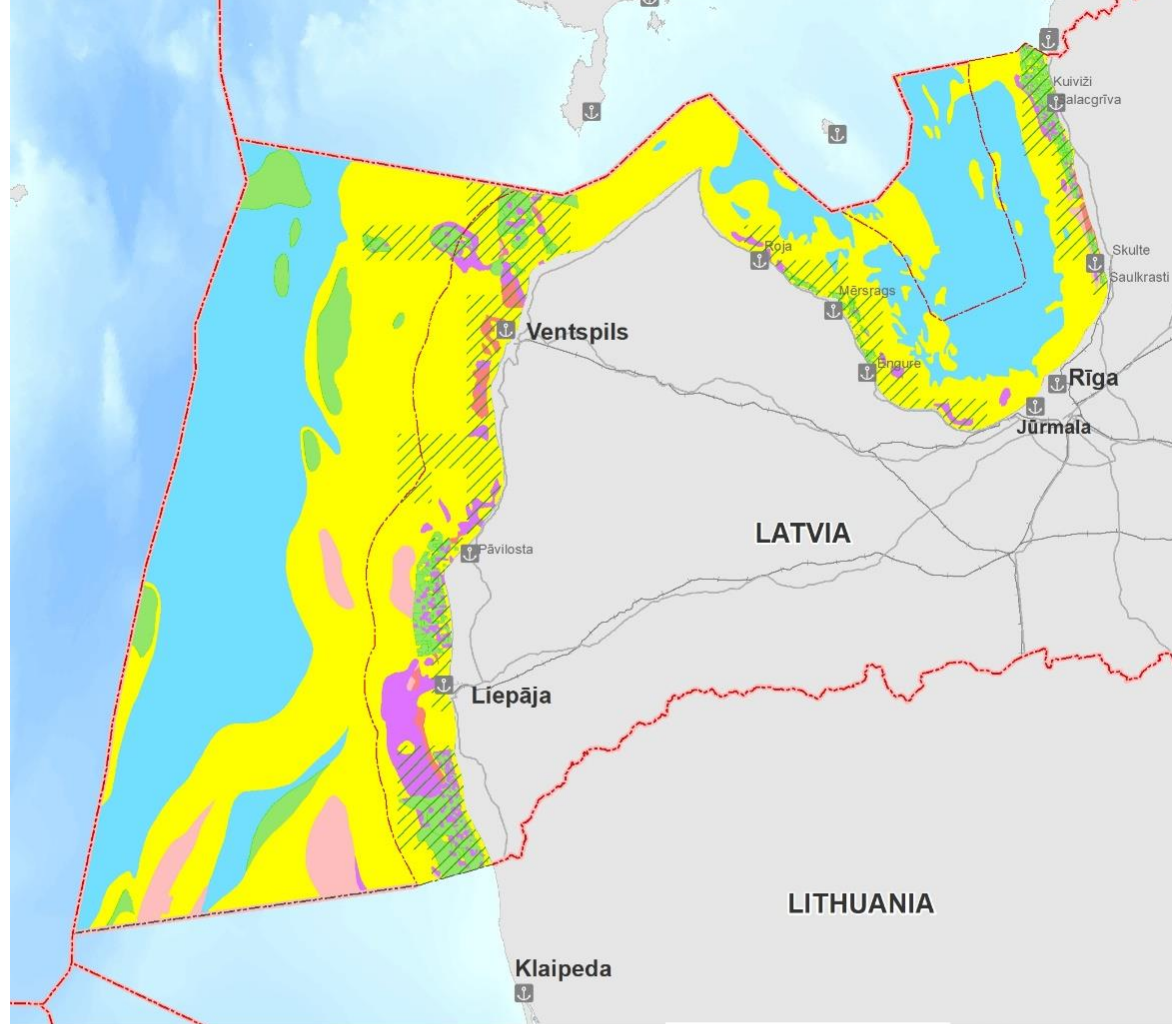
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Data sources:
Maritime Administration of Latvia
Ministry of Environmental Protection and Regional Development

Additional information

- Ports
- Main road
- Railway
- EEZ border and state border on land
Latvia-Lithuania maritime border treaty is not in force
- Territorial sea border
Latvia-Lithuania maritime border treaty is not in force
- Land



Seabed sediment data + potential protected biotope data



LEGEND

Seabed sediments

- Mixed substrate
- Mud
- Rock and boulders
- Coarse gravel sediments
- Sand

EU protected biotopes

- Potential biotope reef (*1170), rocky shallow waters

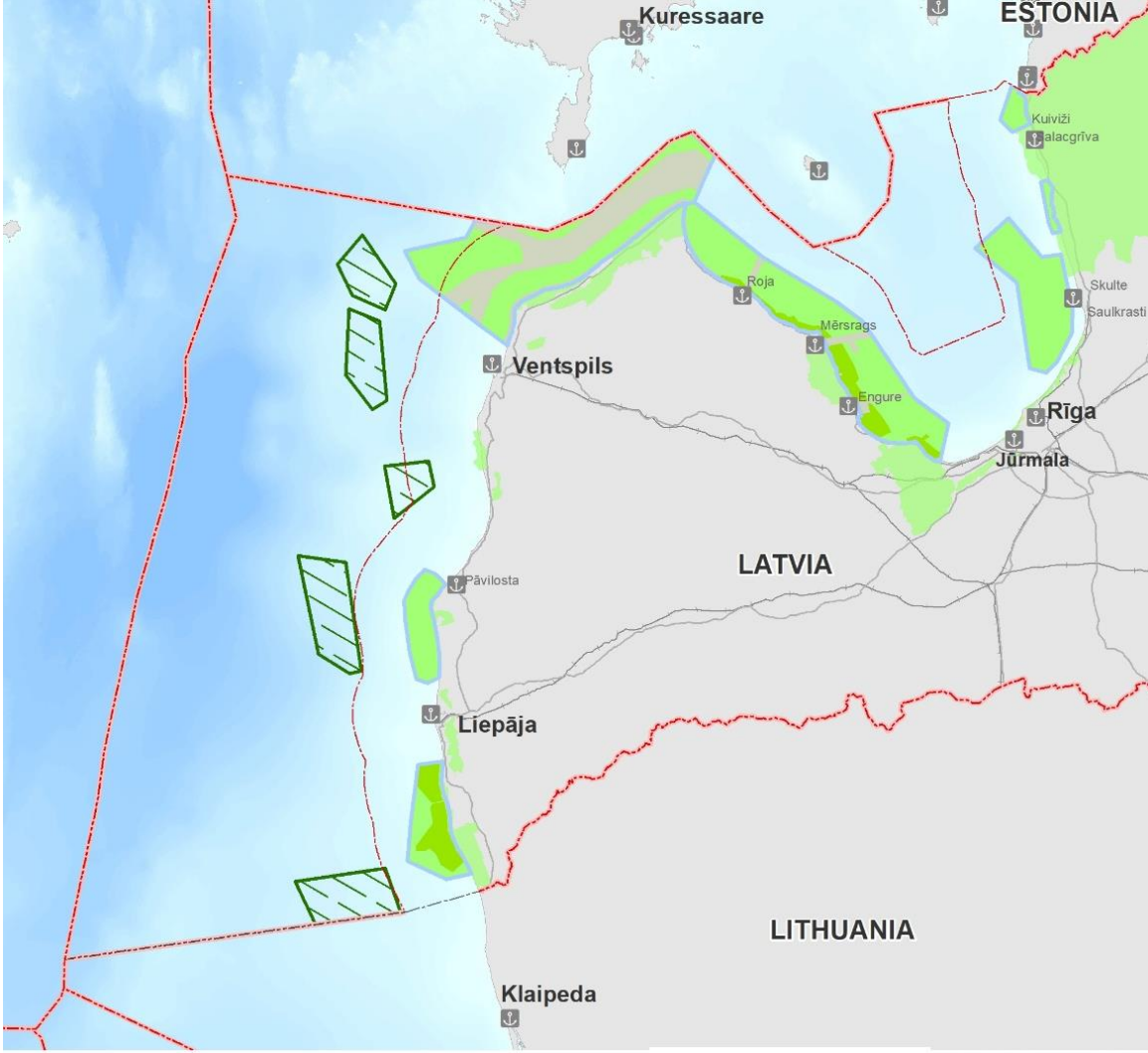
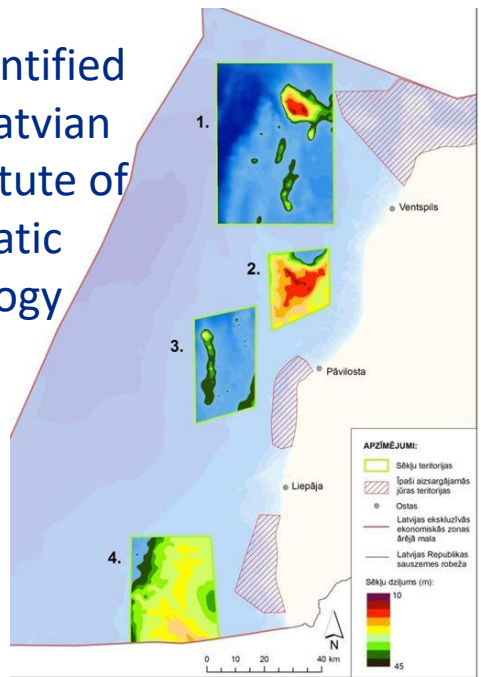
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Data sources:
Latvian Institute of Aquatic Ecology
Ministry of Environmental Protection and Regional Development

Nature conservation areas and possible valuable nature asset areas*

*Identified by Latvian Institute of Aquatic Ecology



LEGEND

Investigation areas of nature values and protected areas

- Investigation area of nature values
- Marine protected area (MPA)
- MPA nature reserve zone
- MPA neutral zone
- Specially protected natural area in coastal area

Additional information

- Port
- Main Road
- Railway
- Border of exclusive economic zone and state (on land)
The Maritime border agreement of Latvia-Lithuania is not in force
- Border of territorial sea
The Maritime border agreement of Latvia-Lithuania is not in force
- Land

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Data sources:
Latvian Institute of Aquatic Ecology
Nature Conservation Agency
Ministry of Environmental Protection and Regional Development

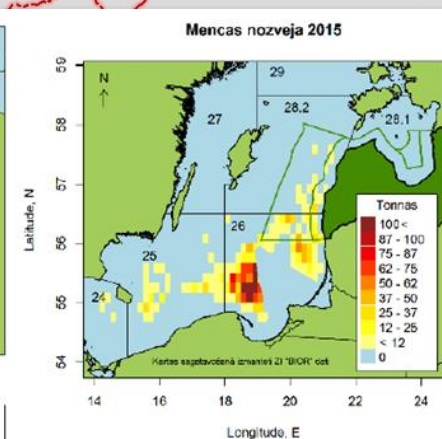
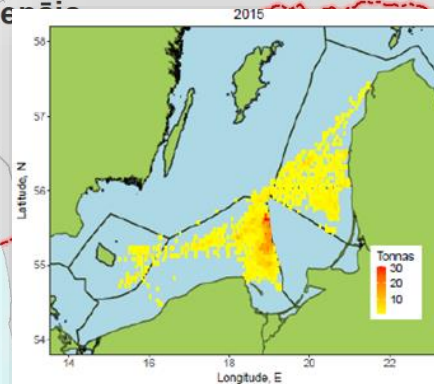
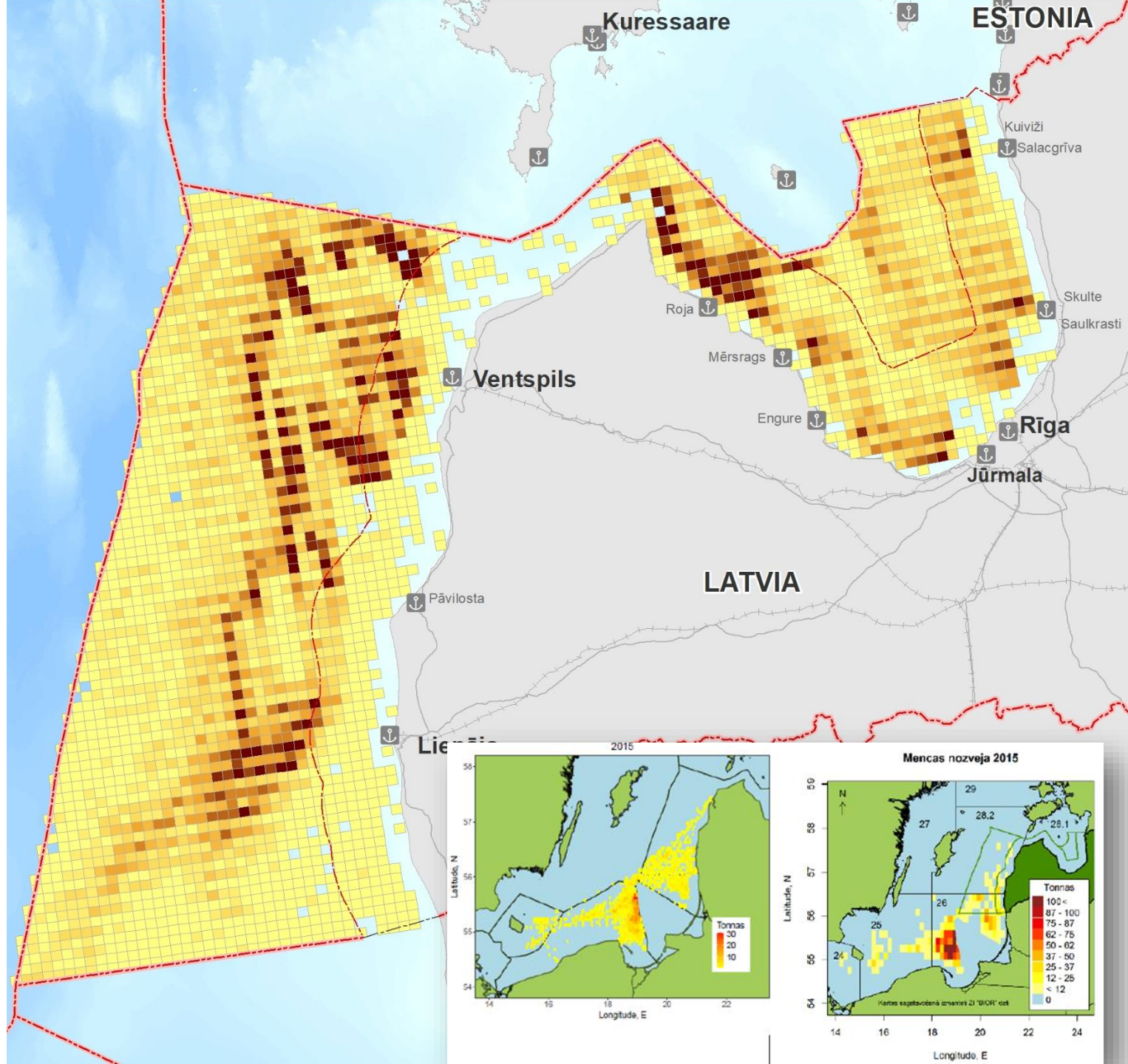
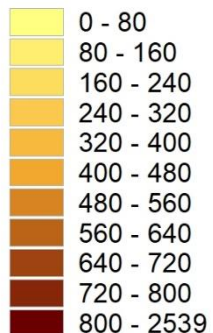


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Fishing effort

LEGEND

Total catch 2004-2013
tonnes



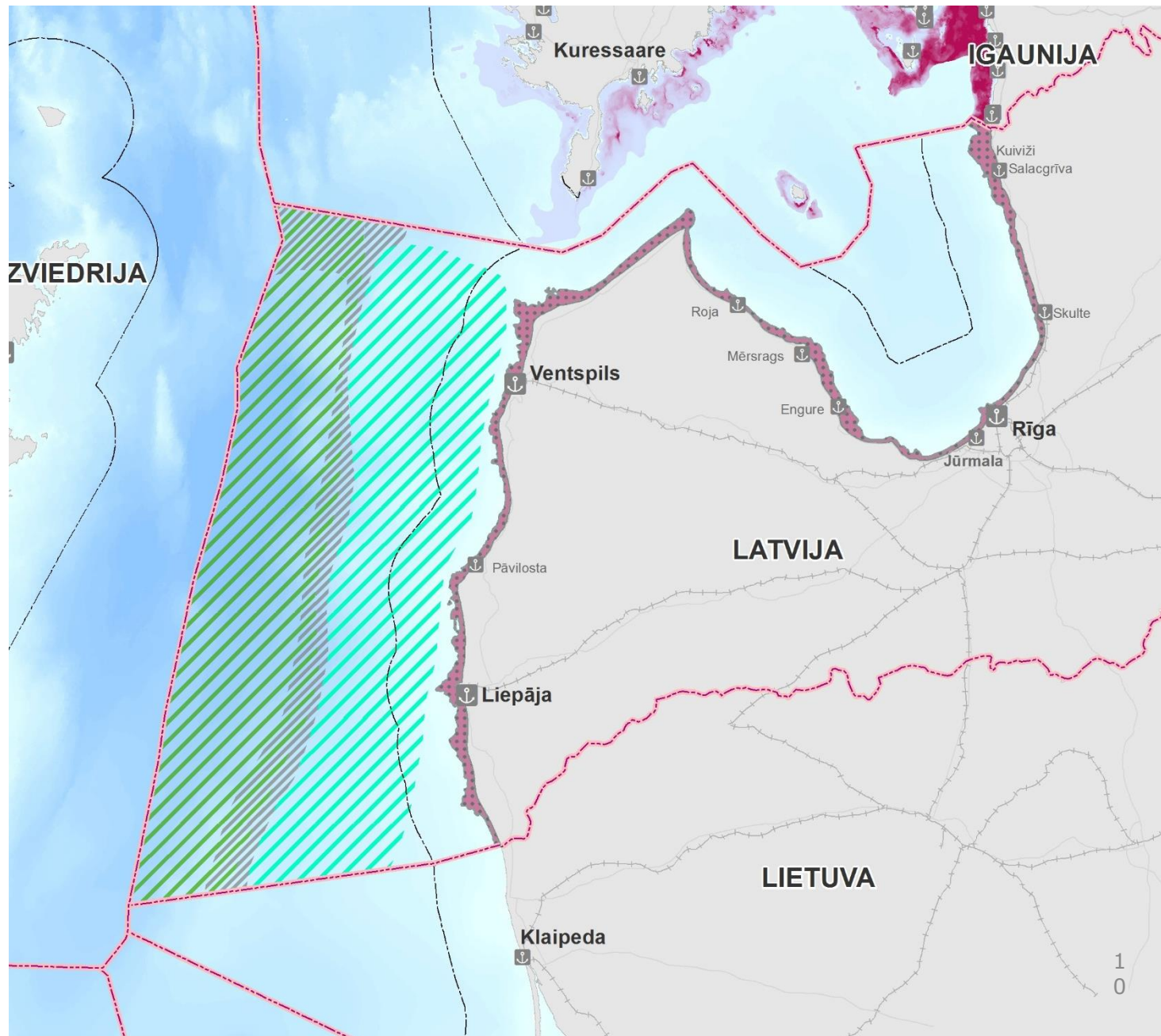
Fish spawning and nursery areas*



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Fish species:
Cod
Flounder
Sprat
Herring

***Map includes
Estonian data**



Tourism



LEGEND

Coastal activities important for tourism

- Kiteboarding and windsurfing
- Marine kayaking, boating
- Fishing at the seashore
- Diving
- Sea related events

Links important for marine tourism

- Yachting route
- Important ferry/cruise vessel shipping direction

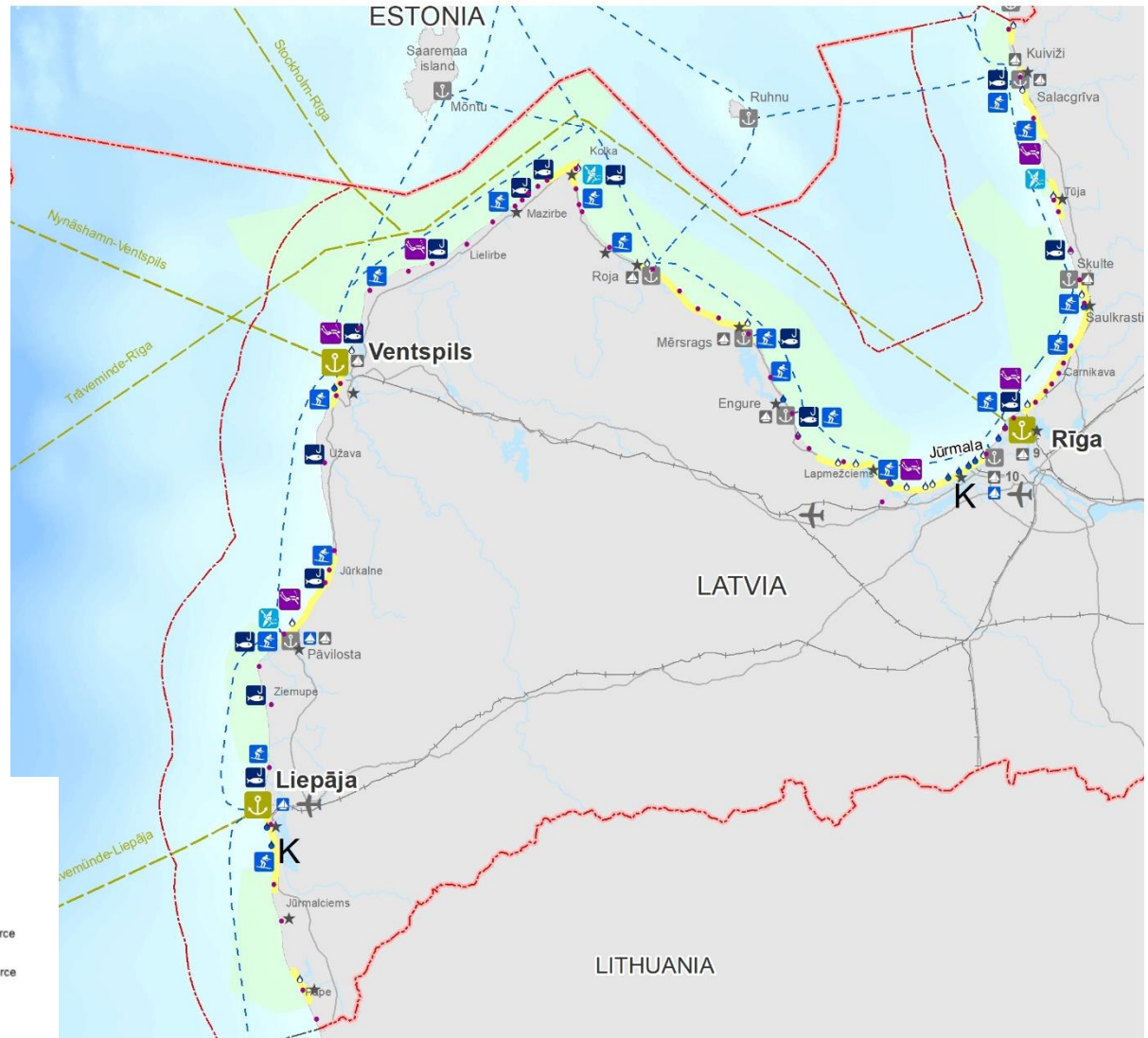
Facilities important for tourism

- Resort
- Bathing site
- "Blue flag" bathing site (2016)
- Jahtklubs
- Blue flag Yacht port (2016)
- Port important for cruise tourism and ferry traffic
- Airport
- Coastal complex development site
- Most visited beaches (2015)

Additional information

- Ports
- Main road
- Railway
- EEZ border and state border on land
- Territorial sea border
- Land
- Marine protected area

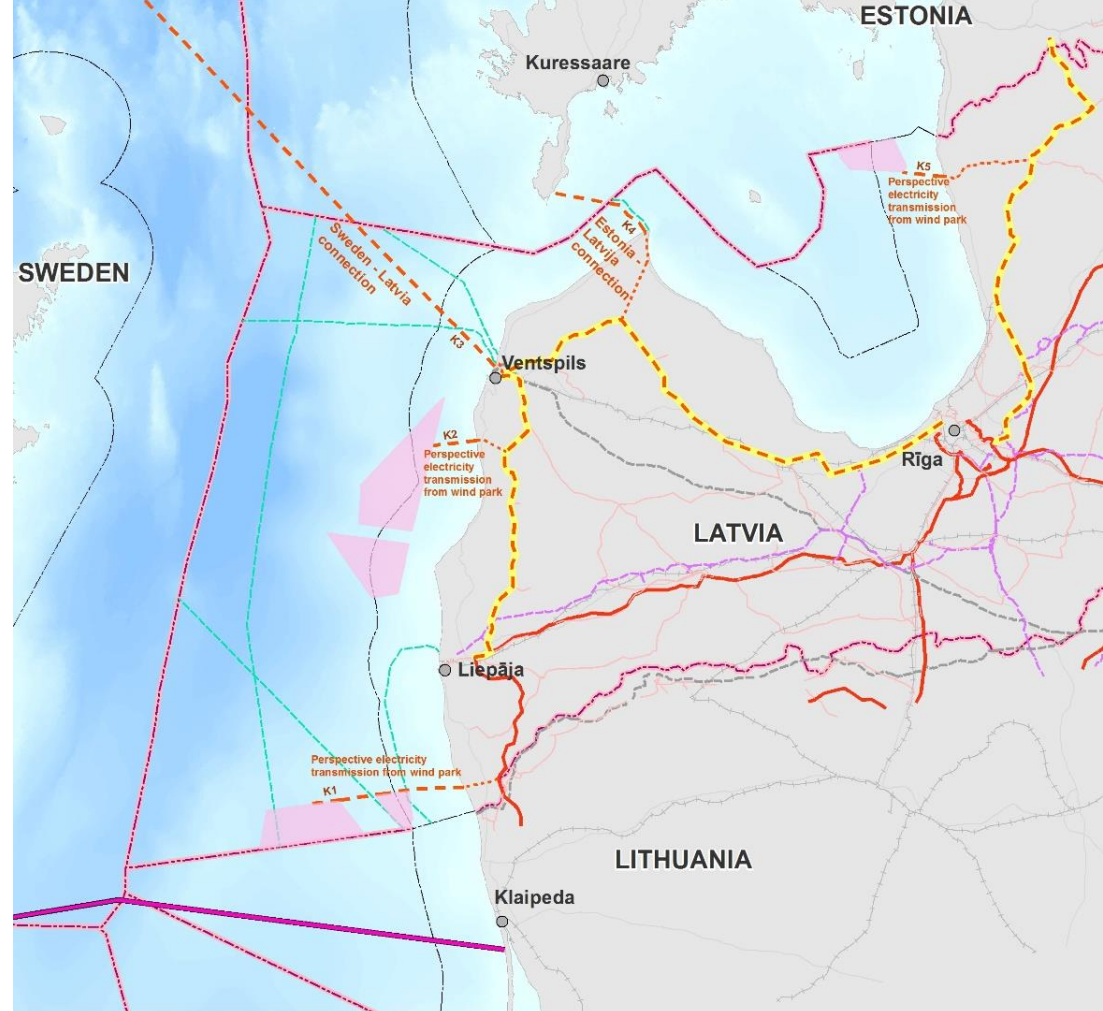
© 2019 Ministry of Environmental Protection and Regional Development
Data sources:
Dr. geogr. Andris Klepers / SIA "Nocticus"
Ministry of Environmental Protection and Regional Development



Development of power grid infrastructure

-onshore grid

-offshore grid
(connections to wind park zones and transmission corridors)



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Potential infrastructure development

- Research area for wind park development
- Perspective electricity underwater cables
- Potential power line to power transmission line (330 kV)
- "Kurzemes loks" and "The third Latvian-Estonian transmission network interconnection" 330 kV power transmission lines

Current situation

- Underwater communication cable
- Oil pipeline
- Gas pipeline
- Power transmission line, 330 kV
- Power transmission line, 110 kV
- Power transmission underwater cable "Nordbalt" (Lithuania-Sweden)

- Cities
- Main roads
- Railway
- Territorial sea border
- EEZ border

Transnational data and data derived from cooperation in EU projects and beyond



Co-funded by the
European Maritime and
Fisheries Fund of the
European Union

<http://www.balticscope.eu/events/maps/>

<http://www.panbalticscope.eu/results/reports/>

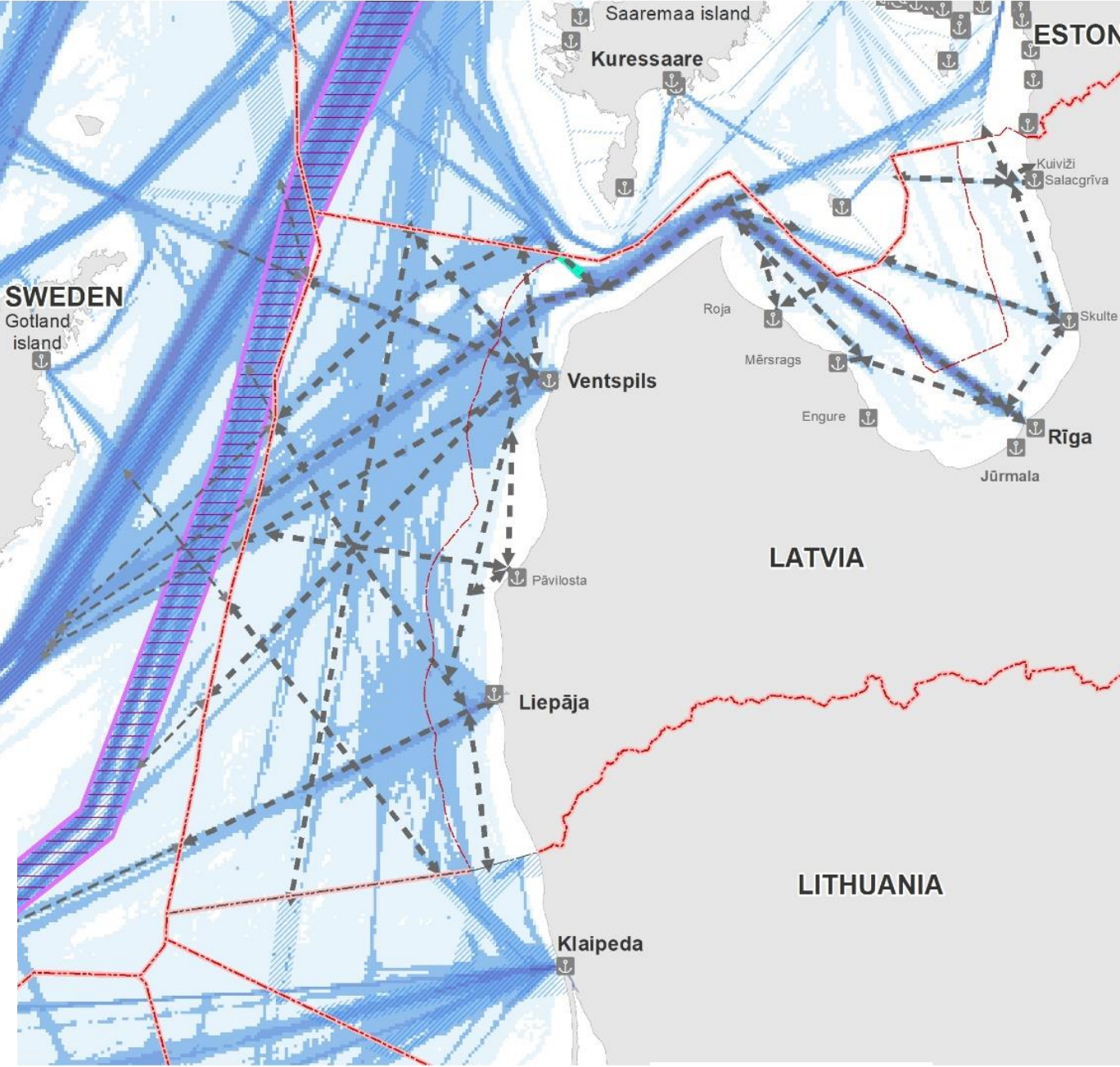


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Transnational data sets used

- ✓ Shipping intensity (AIS) data
- ✓ Wind speed modelled data
- ✓ Fish spawning and fishing data
- ✓ Neighbouring MSP data (including MSP draft versions)
- ✓ etc.

Shipping in Baltic proper (HELCOM AIS, 2016)



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Major shipping directions

- ↔ Shipping directions in Latvian marine waters
- ↔ Continuation of shipping directions in Swedish marine waters

Shipping intensity
 AIS data 2016 (HELCOM)

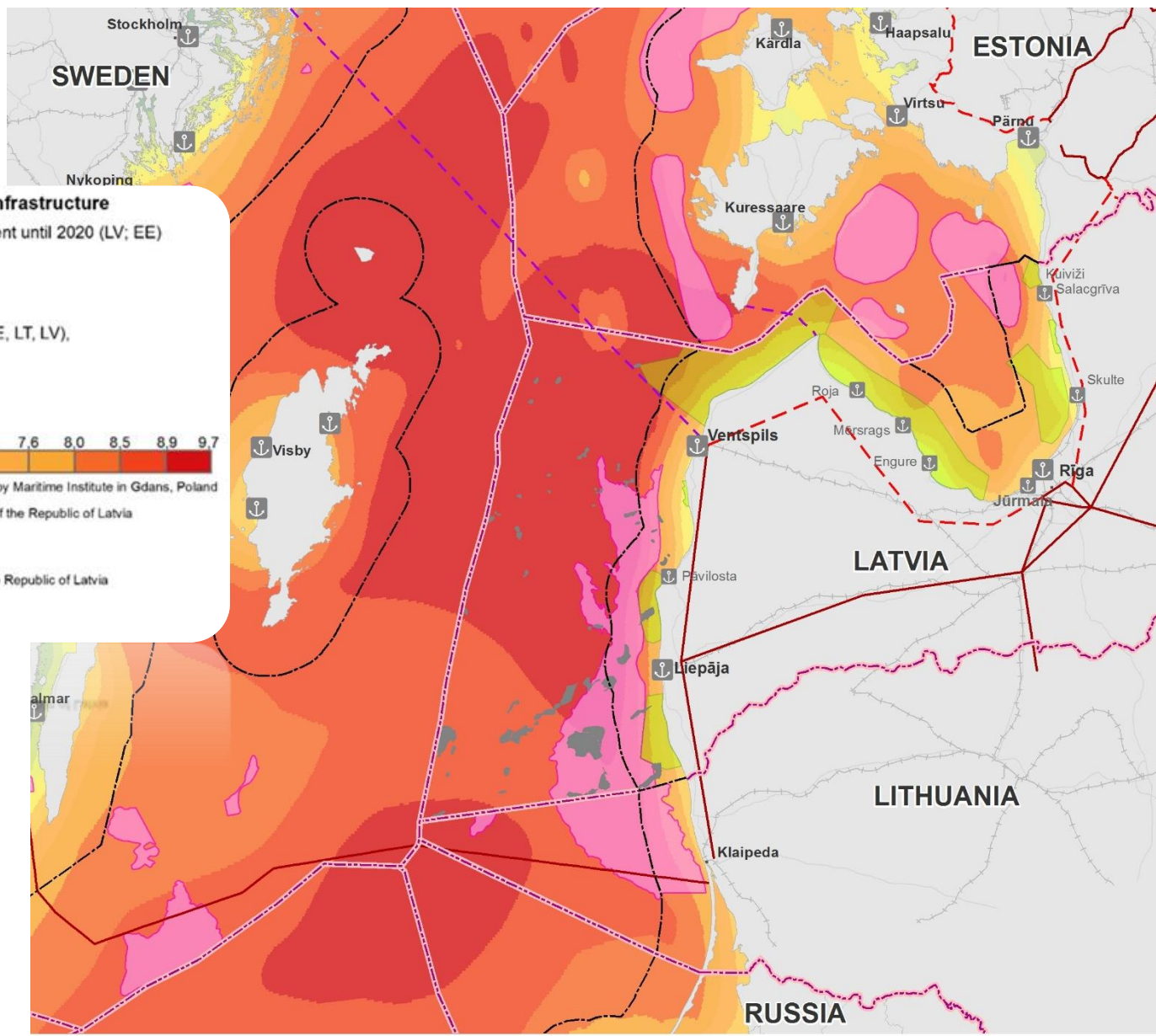
0 - 20
20 - 100
100 - 350
350 - 1 000
1 000 - 4 400
4 400 - 36 293

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 Data sources:
 HELCOM
 Maritime Administration of Latvia
 Latvian Geospatial Information Agency
 Ministry of Defence
 Ministry of Environmental Protection and Regional Development



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Modelled offshore wind speed data for wind park development



Development of potential energy transmission infrastructure

- Planned power transmission network development until 2020 (LV; EE)
- Perspektīvā elektrotīklu savienojumu attīstība (LV; EE)

Potential energy resources in Baltic sea

Areas suitable for wind park development (SE, EE, LT, LV), not taking into account other sector interests

Potential hydrocarbon deposit areas (LV)

Average windspeed data on 100m for 1998-2007, m/s*



*modelling data based on ICM data (University of Warsaw) and prepared by Maritime Institute in Gdansk, Poland

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Data sources:

HELCOM, Natural Earth

SE: Svenska kraftnät, Swedish energy agency

EE: Estonian Marine Institute, University of Tartu, Estonian Land Board

LV: Ministry of Environmental Protection and Regional Development of the Republic of Latvia

Veja atūm: Maritime Institute in Gdansk (MiG)

Additional information

Existing 330 kV powerline scheme

Nature protection areas in Latvian marine waters (Natura 2000)



Ports



Main roads



Railway



Territorial sea

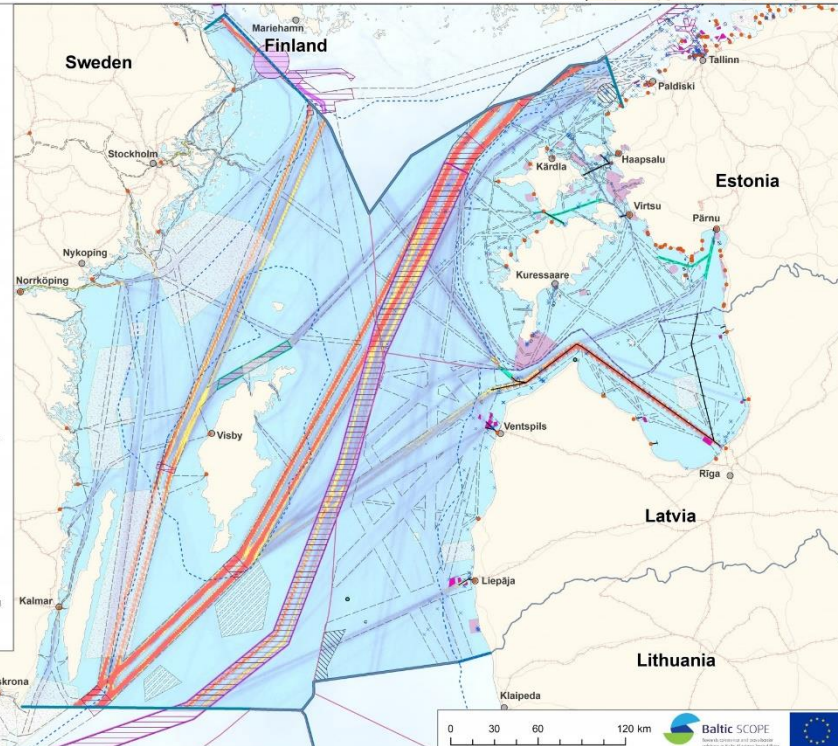
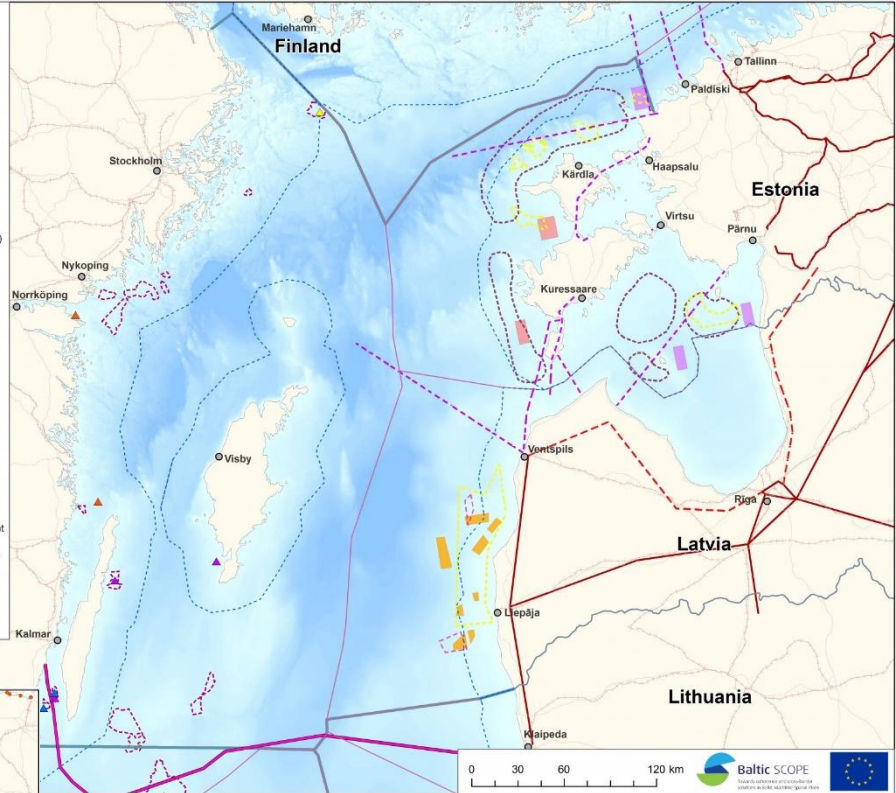
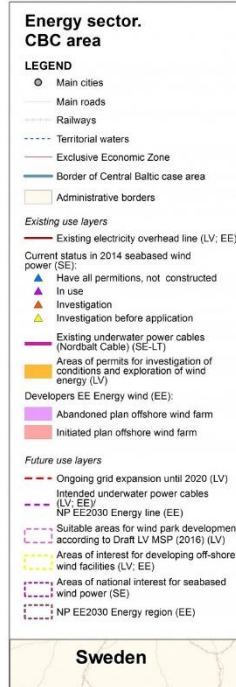


EEZ and state border on land



Land

Joint mapping exercise in Central Baltic area (2016) for shipping and energy

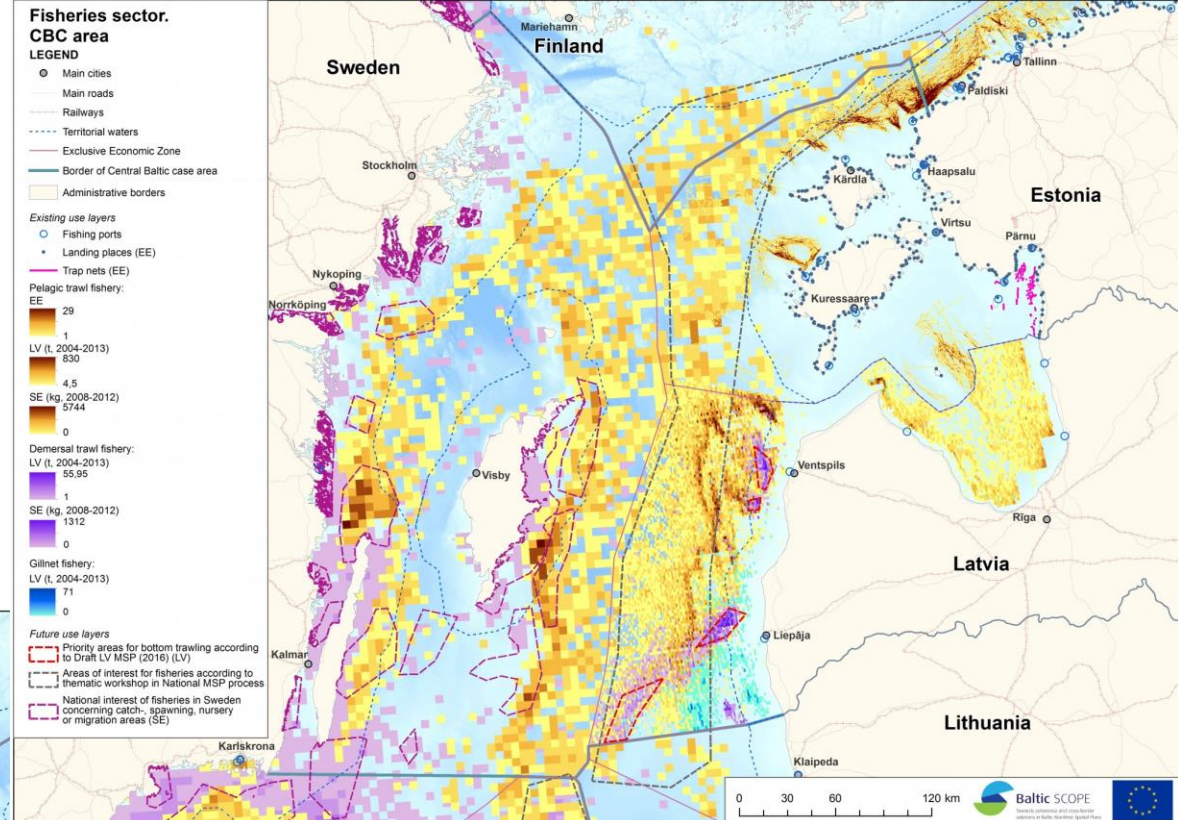
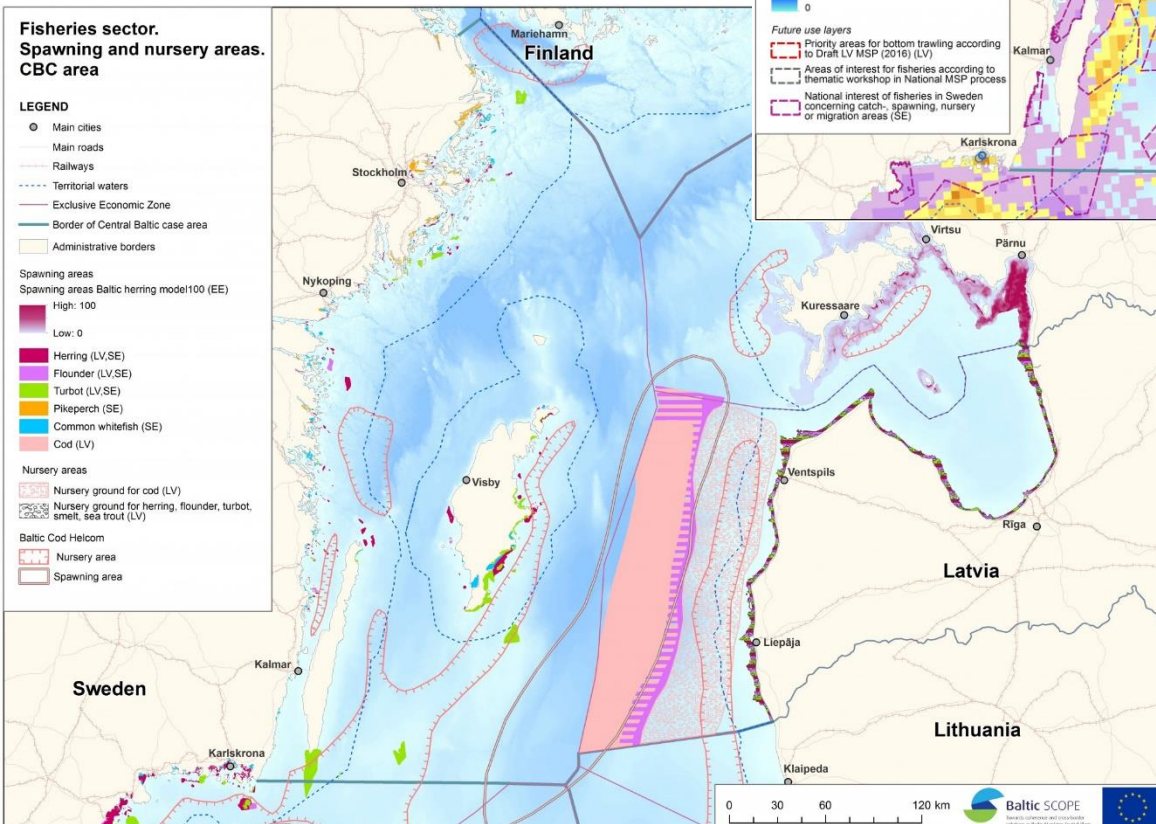


Baltic SCOPE

Forwards coherence and cross-border solutions in Baltic Maritime Spatial Plans



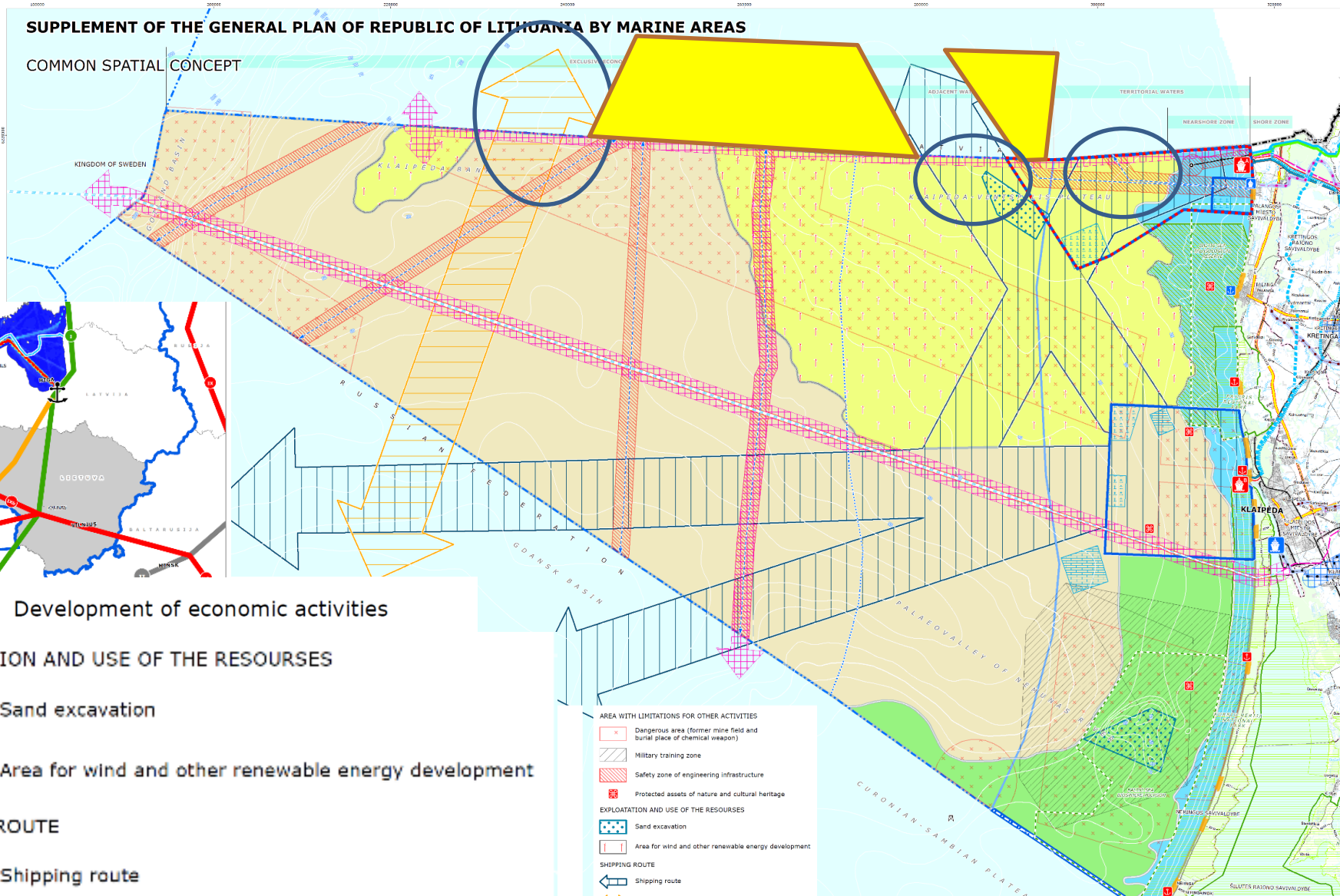
Similarities between national data, but different in scales, units, coverages



Neighbouring MSP of Lithuania

○ Shipping «gates»

▼ OWF areas



The image features a light gray background composed of interlocking puzzle pieces. In the center, one puzzle piece is missing, leaving a dark, irregularly shaped void. The words "Data gaps" are written in a bold, white, sans-serif font, centered within this dark void. The overall composition suggests a missing piece in a larger system or dataset.

**Data
gaps**



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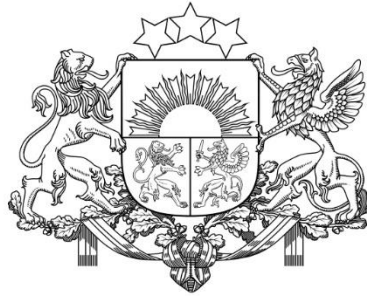
GAPS in available data

Nature related data:

- Factual (assessed) biotope data
- Areas important for seals
- Bird migration data
- Ecosystem services data etc.

Data for Blue Economy:

- Areas appropriate and safe for fish aquaculture development
- Wave energy potential
- Wind speed measurements offshore



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Thank you for your attention!

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More information on Latvian MSP available on:
<https://www.varam.gov.lv/en/maritime-spatial-planning>