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Invasive alien plants and the Ljubljana Municipality

WWF workshop, Budapest 2016



Ljubljana

- capital of Slovenia
- ~300.000 inhabitants
- inner city ~70 km²
- municipality ~275 km²
- precipitation ~1350 mm/y
- elevation ~ 300 masl
- average temperature ~13°C
- 30 km S from Alps, 80 km NE from Adriatic



flora of Ljubljana

- ~1400 vascular plant species recorded since 1760
- >1000 confirmed in 2015 (inner city)
- >500 recorded recently in the Grad hill
- predominantly Central-European lowland flora with some Illyric taxa
- threatened taxa rapidly declining
- high number of neophytes

projects dealing with IAS in MOL

- Thuja (2008-9)
 Thuja (2011-12)
 [as ice-breakers]
 and subsequently:
- Ragweed 1 (2011)
- Ragweed 2 (2012)
- Flora of MOL (2015)
 +several other activities





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pilot study:

- description of general situation of IAS threat in MOL
- development of mapping methodology for ragweed
- 3 sampling areas 1 km² each
- based on results plan for mapping >200 km²
- ...with cost estimation for the next project
- 4 collaborators, ~10 days field work ...

report on 95 pages precise description of ragweed in all developmental phases general situation wit IAS in the territory of MOL mapping method databasing method estimation of work needed for whole MOL estimation of cost





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3 selected sampling plots:

- city centre (urban mosaic, parks)
- E Ljubljana (industrial zone, highway, railway)
- N Ljubljana (suburbs, highway, farmland)
- mapping along all the accessible street network
- recorded ragweed populations on maps 1:5000







each recorded population presented separately with coordinates, size estimation, pfoto, description if needed in addition to that, all known ragweed population in MOL presented based on results each km² of MOL assigned one of 3 levels of intensity for ragweed

mapping





inventarization of ragweed in MOL:

- training for >20 field mappers and permanent communication with them
- random checking reported populations from interactive database
- 207 sampling areas 1 km² each
- based on pilot: 3 levels of mapping intensity
- ...with cost estimation for the next project
- >20 collaborators, 3 coordinators, ~250 days field work ...



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Pokritost območia s popisovalci

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coordination a bit more complicated each mapper responsible for ~10 plots Scorpe Brase communication Imbrosia MDL 2512 AMERCERA-... ORITY LI 100 🔤 karta ambr... at restor:" po via G-docs interactive Lingate databasing





much more than expected ragweed polulations recorded "best" plot with 117 populations small populations destroyed on the spot 16. avgust 1900 working h 1414 records as expected: 23. september mostly along railway and

highway





public services of MOL started with eradication immediately after results were reported

but only on public areas repeated monitoring planned in next years





inventarization of vascular plants in MOL: emphasis on ragweed (monitoring) 10 selected IAS in early phases of spread training for >20 field mappers and permanent communication with them covering of gaps (results of less active colaborators) 70 sampling areas 1 km² each >20 collaborators, 3 coordinators, ~250 days field work ... WWF workshop, BP 2016



1 vegetation period, 70 km² >20 students with good knowledge idea of mapping IAS expressed by MOL was transformed: complete flora, but less precise data on common IAS field form with 800 known spp. prepared mapping sub-units are polygon with similar habitat type





May-October each sampling plot covered at least 3 times: spring, summer, autumn expected score: >200 sp./km² field training available at least once a week communication especially for determination of photos











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all season activity! average 265 sp./km² >1000 species recorded 38.000 field records some really good botanists discovered among students







a neophytes b invasive С of nature conservation importance 0 new





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other small activities



guided tours workshops "gloves on" campaign public lectures IAS handbook technical service to communal maintenance new "wild park" design involvment of our students



to conclude



important to have "somebody" in the Municipality publication of results in local media! do not avoid media (yes, sometimes they are annoying) not everything is paid some binding legal acts regarding IAS are helpful: we can offer a hand to Municipality! media like stories: do not forget hogweed poisoning, tree-of-heaved destroying pavements, ragweed allergy, botanical gardens as Pandora's boxes, huge estimation of costs for eradication of WWF workshop, BP 2016 IAS. etc.