

## REPORT ON SURVEY RESULTS

### INVASIVE PLANTS' SPECIES AND MANAGING THEIR SPREAD IN LATVIA

#### EXECUTIVE SUMMARY

##### Sub-Action A.6.1: Survey on invasive alien species

Often people are delighted by the magnificently blooming blue lupine and yellow Canadian goldenrod fields, which can be seen in large areas along roads, waterfronts, forest edges, former allotment gardens and cemeteries, power lines, etc. Many of us do not know and cannot imagine that a while ago there was a greater diversity of plants in these places where we now see these bright plants. In the rural landscape of modern-day Latvia there is little left of real, natural nature. Aggressive foreign or invasive plants are causing harm to Latvia's ecosystems and native species, they are gradually displacing many native plant species, for example, in meadows they outcompete natural meadow plants and after a while turn the meadow into a monoculture. These are species that are not characteristic of Latvian nature that threaten native plants and their habitats, causing environmental and economic damage, sometimes also a threat to human health. Most of these foreign plants have been introduced by humans, mostly in the 20th century, grown for various purposes, for example, Sosnowsky's hogweed as a fodder plant, *impatiens glandulifera* (Himalayan balsam) and Canadian goldenrod as ornamental plants in gardens.

In Latvia, out of approximately 633 foreign plants that passed into the wild only a few dozen are considered a threat to local habitats. The other species are rarely found and pass into the wild only in the immediate vicinity of plantations, unable to spread more widely due to the climate. The key word is aggressiveness, speed of spreading in Latvian nature.

To find out the knowledge and experience of Latvian land owners or managers about invasive plant species, and their motivation to eradicate them from their lands, a survey was conducted from June to December 2021 in which land owners and managers from various regions of Latvia were surveyed and their opinions collected. The overarching goal of the survey was also to draw attention to invasive plant species by educating the respondents about them.

The survey covered the entire territory of Latvia and no regional differences were found in the respondents' answers. In processing the results of the survey, 359 respondents' answers from the 503 received were used as valid. The survey respondents were 42% male, 57% female, and 1% did not want to indicate their gender. The largest number of respondents were in the age group 46-55 years (24%), followed by 56-65 years (23%), 36-45 years (20%), 26-35 years (18%), 66-75 years (8%), but 3% of the respondents were in the age groups 16-25 years and >75 years. 59% of the respondents had higher education, 25% – secondary professional education, 5% – incomplete higher education, 8% – secondary education, 3% – primary education. 55% of the respondents were employed, 14% worked in their own company, 14% were pensioners, 10% were self-employed, 2% received unemployment benefits or were studying.

81% of the land property for which answers were provided was owned by the respondents (including families or legal entities that own capital shares), 10% of the respondents managed land property that they did not

own (for example, leased property), and 9% managed both owned and non-owned property. The land area of 42% of the respondents was between 10.1 and 50 hectares.

The land managers mostly rated their knowledge and attitude towards invasive plant species as average. 3% of the respondents did not recognize any of the five invasive plant species included in the survey. The respondents with higher education (8%) and young people in the age group from 16 to 25 years (18%) had the highest self-assessment of the knowledge about invasive plant species; the respondents with secondary education (31%) and those in the age group from 66 to 75 (16.7%) and from 56 to 65 years (14.5%) had the lowest self-assessment of the knowledge.

52% of the managers had surveyed their properties to find out the occurrence of invasive plant species, 28% had not paid attention to them, 18% had tried to find out some unknown plants to understand whether they were invasive plants, for 3% someone else had drawn attention to the existence of invasive plant species on the property.

The age groups that more often did not pay attention to invasive plant species on their property were 26-35 years, 66-75 years and over 75 years old (33.3% in all three groups). According to the obtained education, the respondents with secondary education (43.3%) did not pay attention to invasive plant species on their property, and so did 10.5% of the respondents with incomplete higher education. According to the type of occupation, seniors (37.2%) were not interested in invasive plant species on their property, but there are no such respondents among students, and among respondents with income above 2000 EUR there were none who were not interested in invasive plant species on their property. 34.5% of the respondents who did not want to indicate their income were not interested in the invasive plant species on their property.

The students (85.7%) and the unemployed (75%) indicated that there were invasive plant species on their property. Young people also had the highest self-assessment of the knowledge of invasive plant species, thus students could better recognize invasive plant species on their property.

77% of the managers had taken measures to eradicate invasive plants. The majority (33% of these managers) had been doing this regularly for several years. According to the obtained education, the respondents with higher education (84.5%) and incomplete higher education (75%) were the most active in the eradication of invasive plant species.

After taking measures to eradicate invasive plants, 45% left the plants there, 33% burned them, 13% moved them to another open place on their property (open-type compost pile, forest edge, etc.) or fed them to livestock, 8% moved them to a closed-type compost pile or a place that is otherwise separated from the surrounding environment, but 4% moved the plants to another open place outside their property (open type compost pile, forest edge, etc.).

The most frequently used methods of combating invasive plant species mentioned by the property managers were the following: mowing, sawing or cutting - 44%, cutting off inflorescences - 26%, digging up - 24%, ploughing or other type of mechanical soil treatment - 21%, etc. Mowing, sawing or cutting (37%), digging up (24%), cutting off inflorescences (22%), using chemical agents (17%) were mentioned as the most effective methods.

The managers had observed that different eradication methods are required to combat different invasive plant species.

From 23% of the managers who had not taken measures to eradicate invasive plant species, 8% mentioned that they did not know that they had to do it, 5% did not see the risk that the plant would cause a danger, for 4% of the managers the plants did not interfere with the management of the property, 2% considered it decorative and did not want to eradicate or were aware that the spread of the plant should be limited, but there was no available equipment, no energy, no money, etc. 1% acknowledged that the plant is useful, therefore they did not want to eradicate it, or the regulatory acts did not provide for mandatory eradication of the plant, so they had not done it, but 0,5% stated that they did not try to eradicate the plant, because the owners in the neighbouring territories did not do it or the property was subject to restrictions (SPNT, etc.), thus it was difficult to carry out eradication measures.

The main reasons that hinder the eradication of invasive plants included the lack of time (62%), lack of funding or lack of suitable equipment (61%), as well as the lack of action in the adjacent area (58%) and the lack of information (52%).

The most frequently mentioned tools for increasing the motivation for the eradication of invasive plant species were examples of good practice from other land managers (82%), co-financing for the implementation of eradication measures (82%), real estate tax reliefs during the implementation of eradication measures (80%) and specialist consultations (80%), as well as quality informative materials (74%). Cooperation with surrounding landowners is very important in the eradication of invasive plants as plants spread across property boundaries. This is one of the most important issues to address. The respondents also believed (almost half - 49.5%) that the eradication of invasive plant species was primarily the responsibility of landowners (including state and local governments).

81% of the respondents answered the open question about the provision of information, of which 49% indicated that the information about invasive plant species was insufficient (including only in Latvian, about losses, methods, also about protected plant species).

Taking into account the analysis of the profile of the respondents from the answers provided, it can be concluded that quality information and education play a vital role in identifying and eradicating invasive plant species.

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