

Summary of invasive species savings calculation

Comparing the total cost saved over 20 years compared with additional INNS biosecurity investment.

Between 2021-2040, under the current business as usual scenario, the invasion of 42 new invasive species will cost the UK economy an additional £3.37 billion. This is equivalent to £168.5 million annually.

In comparison, by increasing spending on invasive species biosecurity and establishing an inspectorate, additional economic costs caused by new invasive species arriving in the UK will be reduced to £672 million over 20 years, with the annual cost rising by about £33.5 million. This would provide an annual saving to the UK economy of around £135 million.

Both of the above figures are in addition to the estimated £2.2 billion p.a. cost of established invasive species, which will total £44 billion over the 2020-2040 period

Over 20 years, for an additional £120 million investment (an investment of £6million per year) in invasive species biosecurity would save an estimated £2.7 billion.

That is a return investment of **£23 for every £1 spent.**

| By 2040 | Total number of invasive species in GB | Additional investment on INNS over 20 years | Additional cost of new invasive species | Money saved through successful eradication | Total cost of new invasive species over 20 years |
|--|--|---|---|--|--|
| Business as usual (£0.9 million in resources) | 317 | £0 | £3.37billion for 42 invasive species | £0 | £3.37 billion |
| Increased resourcing and a dedicated inspectorate (£6 million) | 283 | £120 million | £1.52 billion for 18 new invasive species | £840 million | £672 million |

[CABI's 2010 report](#), commissioned by Defra, estimated that invasive species cost Great Britain approximately £1.7 billion every year. Since this research was undertaken, inflation alone would increase this cost to around £2.2 billion every year and the further introductions of invasive species, and wider spread of established species, is likely to have pushed this figure even higher.

There are approximately **275** INNS currently established in GB.

GB NNS estimate that some 36-48 (average 42)¹ new invasive species will establish in the next 20 years under current business as usual (BAU) with no further increases in resourcing or a dedicated inspectorate. This will equate to **317** invasive species established in the UK by 2040.

¹ GB Programme Board paper

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/invasive-species/written/104755.pdf>

Estimates from the GB Programme board indicate that by tripling the budget to £3 million a year and forming a dedicated inspectorate (£3 million), this could prevent 24 new invasive species from establishing, resulting in only 18 new invasions compared to 42 under BAU. Increased resourcing would also enable 10 established invasive species to be successfully eradicated. By 2040, this would result in **283** invasive species being established in GB. With an overall increase in the number of species therefore being reduced to 8 additional species, rather than 42.

Using these estimates, the savings from increasing the INNS budget was estimated:

| Year | Business as usual (2.1 new invasions per year) | Increased resources (0.9 new invasions per year and 0.5 invasive species eradicated) |
|--|--|--|
| 2021 | £16,800,000 | £3,200,000 |
| 2022 | £33,600,000 | £6,400,000 |
| 2023 | £50,400,000 | £9,600,000 |
| 2024 | £67,200,000 | £12,800,000 |
| 2025 | £84,000,000 | £16,000,000 |
| 2026 | £100,800,000 | £19,200,000 |
| 2027 | £117,600,000 | £22,400,000 |
| 2028 | £134,400,000 | £25,600,000 |
| 2029 | £151,200,000 | £28,800,000 |
| 2030 | £168,000,000 | £32,000,000 |
| 2031 | £184,800,000 | £35,200,000 |
| 2032 | £201,600,000 | £38,400,000 |
| 2033 | £218,400,000 | £41,600,000 |
| 2034 | £235,200,000 | £44,800,000 |
| 2035 | £252,000,000 | £48,000,000 |
| 2036 | £115,200,000 | £51,200,000 |
| 2037 | £285,600,000 | £54,400,000 |
| 2038 | £302,400,000 | £57,600,000 |
| 2039 | £319,200,000 | £60,800,000 |
| 2040 | £336,000,000 | £64,000,000 |
| Total additional cost over 20 years | £3,374,400,000 | £672,000,000 |

Assumptions:

- The calculation is based on a figure of the average annual cost to the UK economy per invasive species being in the region of £8million. This generalised calculation is based on the estimated annual economic cost of invasive species in the UK (currently circa £2.2bn) divided by the number of invasive species established in the UK (circa 275).
- The invasion of 18 new invasive species in 20 years will occur incrementally. An average invasion rate was calculated assuming 18 INNS/20 years = 0.9 new invasive species invasions per year under the increased spending budget compared to 42 INNS/20 years = 2.1 new invasive species under business as usual. However, it should be recognised that invasions are not linear and therefore there may not be any invasions in one year and multiple in others.
- That a new invasive species has a negative cost instantly from arrival.
- Each invasive species has the same cost in the UK.

For more information, contact:

[Zoe Davies](#), Policy Lead, Wildlife and Countryside Link

- The current cost of established invasive species in GB will remain the same. This overlooks the likely increases in the distribution and abundance of established invasive species over 20 years which will result in greater costs. By increasing resources and forming a dedicated inspectorate it would be anticipated that established invasive species would be more effectively managed and therefore increased costs would likely be lower compared to BAU scenario. This was not accounted for in the estimate.
- The invasion rate is based on GB Programme Board estimates, however, with new trade routes being established, the rate of new invasions into GB could be higher.
- An average eradication rate of an invasive species was applied with 10 INNS projected to be eradicated over 20 years. 10 INNS/ 20 years is 0.5 species per year.

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