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| --- | --- |
|  | ***Mychor Treatments******A novel business strategy to manage White Nose Syndrome (WNS, a Bat-killing Virus)*** |
|  |  |  |

**PROPOSED WNS TREATMENT “37B”**

### Instead of the academic strategy of studying the virus while bats go extinct…

### Rearing bats in artificial, mass-produced HVAC-controlled hibernacula (hibernation roosts):

### Purchasing off-the-shelf, mass-produced concrete sewer sections

### Roughening inner facings to create creviced roosts

### Installed using cut-and-cover tunnelling and backfill construction method

### Temperature-managed using HVAC systems, monitored by techs with fieldcraft expertise

### 1-to-2 units per county or census district across Eastern North America

Traditional scientists have not figured out a treatment, and their culture precludes moving quickly, with 30 years—for competitive and ‘heroic scientist’ branding reasons, not scientific reasons—being the norm. WNS is spreading. It has a 90-95% mortality rate and many species face extinction.

**Testing Stages:**

1. 6-to-8-month lab test (est: $11,000 for basic testing; $150-$200,000 for full battery of tests).
2. Controlled field-site studies:

a. 2-to-3 seasons

b. Applied with oversight by front-line U.S. Fish & Wildlife experts and third party experts

c. Costs include purpose-built field station (est: $12.0 million + $250,000 operating costs/yr)

If proven out in field conditions, an initial program is estimated to produce 10 new seasonal jobs in each infected State & Province, plus 2 full-time monitoring jobs in each County or Census District.

**Quick Comparison of Impact for USA**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Private Biotech Program** |  | **Traditional Academic Research Program** |
| **R&D ESTIMATE** |  |  |  |
|  Duration (Total = Laboratory + Field-work) | 3-5 years (1/2 + 3) |  | 28 years (25 + 3) |
|  Personnel (Scientists) | 2 |  | 100 scientists |
|  Personnel (Support Staff) | 20 support staff |  | 0 |
|  **Total** | **$12.86 million** |  | **$15.15 million** |
|  |  |  |  |
| **NEW USA JOBS & WAGES IMPACT ESTIMATE – 30 YEARS** | **Commencing Year 3** |  | **Commencing Year 29** |
|  States & Counties infected by 2012 | 240 / 2,804 |  | 240 / 2,804 |
|  Nationwide Preventative Program- Jobs | 510 / 6,264 |  | 510 / 6,264 |
|  **Nationwide Preventative Program – 30 Year Wage Impact** | **x 28 yr = $6,330 million** |  | **x 2 yr = $452.2 million**  |
|  |

**Estimate of Potential Impact:**

1. Prevent loss of biodiversity (species’ extinction and effects on other species)
2. Minimize effect of infestation spread and concurrent impact to agriculture
3. Economic benefit (wages, training, veteran transition to civilian life)

**Results:**

1. Private entrepreneurial scientist complimented concept as a good test strategy
2. Warned that public academics would block scientific efforts that they could not control
3. Major university prospect stonewalled requirement to sign commercial NDA
4. So instead, open-sourced the proposal--alerting caving & veteran employment champions
5. Enabling federal insiders to privately test science strategy, at whatever pace they want
6. Putting bat recovery ahead of academic strategy of using glacial slowness to kill competitors

**Detailed Comparison of Approaches**

: Estimate for USA **– next page**

: Estimate for Canada not provided here

|  |  |  |  |
| --- | --- | --- | --- |
| **DETAILED COMPARISON OF APPROACHES****WITH ASSUMPTIONS** | **PRIVATE BIOTECH PROGRAM** |  | **TRADITIONAL ACADEMIC PROGRAM** |
| **SCIENCE LABOUR ESTIMATE** |  |  |  |
|  |
| **LABORATORY TESTS** |  |  |  |
|  Duration | 6 months |  | 25 years |
|  Number of Science Personnel | 1 |  | 100 |
|  Science Salaries USD x 10% of Salaried Time | 80,0001 = $8,000 |  | $80,000[[1]](#footnote-1) = $8,000 |
|  Number of Associated Personnel | 0 |  | 0 |
|  Non-Science Salaries USD | 0 |  | 0 |
|  **Subtotal – Labour** | $8,000 |  | $20 million |
|  |  |  |  |
|  R&D Equipment & Related Costs, Per Year, Per Team of 10 | $0 |  | $100,000 |
|  **Subtotal – Equipment** | $150,000 |  | $25.0 million |
|  |
|  **Laboratory Estimate** | **$158,000** |  | **$45.0 million** |
|  |  |  |  |
| **FIELD-WORK** |  |  |  |
|  Duration | 3 years |  | 3 years |
|  Number of Science Personnel x 10% of Salaried Time | 22 |  | 100[[2]](#footnote-2) |
|  Science Salaries USD | 80,0001 = $8,000 |  | $80,0001 = $8,000 |
|  Number of Associated Personnel x 100% of Salaried Time | 20 |  | 0 |
|  Non-Science Salaries USD | $30,000 |  | 0 |
|  **Subtotal – Labour** | $608,000 |  | $2.4 million |
|  |
|  R&D Equipment & Related Costs |  |  |  |
|  USFWS Field-Center Control Site | $12.0 million (1 year) |  | $12.0 million (1 year) |
|  Operating Costs (Labour covered by Study Teams) | $250,000 |  | $250,000 |
|  **Subtotal – Operating Costs** | $12.75 million |  | $12.75 million |
|  |
|  **Field-Work Estimate** | **$12.86 million** |  | **$15.15 million** |
|  |  |  |  |
| **DURATION ESTIMATE** | **3.5 years** |  | **28 Years** |
| **R&D ESTIMATE TOTAL** | **$12.77 million** |  | **$60.15 million** |
|  |
| **JOBS ESTIMATE – PER YEAR, Years 1 to 30** | **COMMENCING YEAR 3** |  | **COMMENCING YEAR 29** |
|  |
| New Jobs – States & Counties infected by 2012 | 240 / 2,804 |  | 240 / 2,804 |
|  Salaries’ Impact ($14,000 seasonal, $35,000 Full-time) | $3.4 million / $98 million |  | $3.4 million / $98 million |
| New Jobs – Nationwide Preventative Program | 510 / 6,264 |  | 510 / 6,264 |
|  Salaries’ Impact ($14,000 seasonal, $35,000 Full-time) | $7.1 million / $219 million |  | $7.1 million / $219 million |
|  |
| **Nationwide Preventative Program – 30 Year Wage Impact** | **x 28 yr = $6,330 million** |  | **x 2 yr = $452.2 million**  |
|  |
| **RISK OF SPECIES’ EXTINCTION FROM TIME COST** |  |  |  |
|  Do Nothing |  |  | Highest |
|  Traditional Academic Research Approach |  |  | High |
|  Private Biotech Approach with Academic Control | Med | to | High |
|  Private Biotech Approach with USFWS Oversight | Low |  |  |

1. Includes one Graduate Student wage per scientist. [↑](#footnote-ref-1)
2. USFW scientist oversight costs to be negotiated. [↑](#footnote-ref-2)