

# BUDGET JUSTIFICATION

**Note:** Please include details regarding both Federal and Matching funds in each section below.

**Project Title:** Enter your project title

<b>Salaries and Wages for PIs.</b> Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.
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## **Federal**

PI, Joe Smith, Associate Professor Biology: Federal funds requested to support approx. 53 hours of summer salary support each year of the project. Base Salary \$113,657 Effective July 2022. Hourly rate approx. \$72.86 /hour for year 2022 with 3% increase each year after (see note below). Total requested = \$xxxxx

CoPI, Sally Waters, Professor Conservation Science; Federal funds to support approx. 38 hours of summer salary support each year of the project. Base Salary \$149,478 Effective July 2022. Hourly rate approx. \$95.82 /hour for year 2022 with 3% increase each year after (see note below). Total requested = \$xxxxx

CoPI, Sam Hydrology, Director Student Learning Office of Engagement; Federal funds to support approx. 53 hours /each year of the project. Base Salary \$109,724 Effective July 2022. Hourly rate approx. \$70.34/hour with 3% increase each year after (see note below). Total requested = \$xxxxx

In accordance with 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, Environmental University tracks and reports its professional personnel on a percent of effort and not on an hourly basis. Salaries are adjusted by standard University inflation rates each fiscal year (July 1): 3% for faculty, 2.5% for professional/technical assistants, and 2% for post docs, graduate/undergraduate students and service staff.

Environmental University's Summer Pay policy allows for academic year faculty/staff who work during the summer to be appointed to summer payroll in accordance with Academic-Year Employment (Policy VI.F.12) and the Academic-Year Employment Pay Practices. Payments made to academic year faculty/staff on summer payroll receive compensation calculated at their annual base salary at a rate of 2.778% per week. These salary payments are estimated based on the number of days the faculty/staff propose to work during the summer period.

## **Matching**

PI, Joe Smith, Associate Professor Biology; Non-Federal funds are requested to support approx. 179 hours of AY time in year 1, approx. 172 hours in year 2, and approx. 172 hours in year 3. Base Salary \$113,657 Effective July 2022. Hourly rate approx. \$72.86 /hour for year 2022 with 3% increase each

year after (see note below). Total requested = \$xxxxx

CoPI, Sally Waters, Professor Conservation Science; Non-Federal Funds are requested to support approx. 125 hours of AY time in year 1, approx. 94 hours in year 2, and approx. 94 hours in year 3. Base Salary \$149,478 Effective July 2022. Hourly rate approx. \$95.82 /hour for year 2022 with 3% increase each year after (see note below). Total requested = \$xxxxx

In accordance with 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, Purdue University tracks and reports its professional personnel on a percent of effort and not on an hourly basis. Salaries are adjusted by standard University inflation rates each fiscal year (July 1): 3% for faculty, 2.5% for professional/technical assistants, and 2% for post docs, graduate/undergraduate students and service staff.

**Salaries and Wages for Graduate Students.** Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)

### **Federal**

A total of two TBA graduate students from Biology and Conservation Science will be funded on this project.

One student will work the entire project (year 1-3) at 50% FTE (6 months- approx. 1040 hours). Total requested = \$xxxxx

One Student will work year 1 only at 50% FTE (6 months- approx. 1040 hours). Total requested = \$xxxxx

Base Salary for each student is \$56,000 Effective July 2022. Hourly rate approx. \$26.92 /hour for year 2022 with 2% increase each year after (see note above). All graduate student support is from federal funding. See note above regarding inflation.

### **Matching**

Click or tap here to enter text.

**Salaries and Wages for Undergraduate Students.** Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual. (Other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work. Also, note that tuition has its own category below and that health insurance, if provided, is to be included under fringe benefits.)

**Federal**

TBD undergraduate student intern, \$16/hr x 15hrs/week x 30 weeks, Total requested = \$7,200

**Matching**

\$0

**Salaries and Wages for Others.** Provide personnel, title/position, estimated hours and the rate of compensation proposed for each individual.

**Federal**

Part-time research associate, summer, \$20/hr x 20 hrs/wk x 12 wks = \$4,800

**Matching**

\$0

**Fringe Benefits for PIs.** Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

**Federal**

Fringe Benefits are included as per university guidelines. Faculty rate 26.97%. Total requested = \$xxxx.

**Matching**

Fringe Benefits are included as per university guidelines. Faculty rate 26.97%. Total requested = \$xxxx.

**Fringe Benefits for Graduate Students.** Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

**Federal**

Fringe Benefits are included as per university guidelines. Graduate Student rate 7.41%. Total requested = \$xxxx.

**Matching**

Click or tap here to enter text.

**Fringe Benefits for Undergraduate Students.** Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

**Federal**

None

**Matching**

Click or tap here to enter text.

**Fringe Benefits for Others.** Provide the overall fringe benefit rate applicable to each category of employee proposed in the projects. Note: include health insurance here, if applicable.

**Federal**

None

**Matching**

Click or tap here to enter text.

**Tuition for Graduate Students.** Provide time & amount. In-state or Out-of-state tuition?

**Federal**

Graduate student remission fees are included for each graduate student each year of the project as per university guidelines. Tuition remission (38%) for 9 academic months in-state graduate tuition: \$8,740

**Matching**

Out-of-state tuition support in the amount of \$6,054 per year (i.e. \$3,027 per academic semester) for full-time graduate student

**Tuition for Undergraduate Students.** Provide time & amount. In-state or Out-of-state tuition?

**Federal**

None

**Matching**

Click or tap here to enter text.

**Supplies.** Indicate separately the amounts proposed for laboratory and field supplies followed by a **itemized breakdown** of the supplies in each category (amounts per unit, # of units, cost per unit, and total item cost). **Supplies without cost details may not be funded.**

**Federal**

\$10,500 Year 1, \$7,069 Year 2, and \$7,068 in Year 3 federal funds is requested for supplies.

Based on the actual costs of supplies and materials in PI's recent projects in the last three years, the detailed costs are estimated as follows:

- 1) General laboratory materials and supplies and field sampling supplies: Gloves (\$135 (=9 x \$15)), filter sets (\$428 (=2 x \$214)), sampling bottles (\$776 (=8 x \$97)), pipette tips (\$660 (=15 x \$44)).
- 2) Analytical chemistry supplies (columns, gases, solvents, chemicals, cartridges, and glassware etc.): Surrogate standard 13C-PFHxA (\$1,200 (=3 bottles x \$400/bottle)), internal PFAS standard (\$1,425 (=3 bottles x \$475/bottle)), SPE cartridges Oasis WAX 6cc cartridge 150 mg (\$1,566 (=6 sets x \$261/set)), 250 mL narrow mouth polypropylene bottles (\$198 (=3 boxes x \$66/box)), 4 mL narrow mouth polypropylene bottles (\$282 (=3 bags x \$94/bag)), 1 mL Polypropylene Vials for LC MS (\$144 = (6 x \$24)), 2 mL Crimp/Snap Top Vials & Caps (\$36 = (3 x \$12)), Acetic acid (\$156 = (3 x \$52)), Ammonium chloride (\$294 = (3 x \$98)), gas cylinder (\$180 = (6 x \$30)), Methanol, LC/MS grade, 2.5L (\$246 = (3 x \$82)), Trident LC Column Protection System Chromatography Columns (\$390 = (3 x \$130)).
- 3) Supplies and reagents for biological analysis (DNA extraction kits, primers, buffers, probes, and enzymes etc.): PCR tubes (\$132 = (3 x \$44)), Media storage bottles (\$250 = (10 x \$25)), 96 well plate for real-time PCR (\$474 = (3 x \$158)), Agar (\$235 = (5 x \$47)), Agarose Gel (\$285 = (3 x \$95)), Biohazard bag (\$141 = (3 x \$47)), Centrifuge Tubes (\$600 = (6 x \$100)), DNA Ladder (\$195 = (3 x \$65)), dNTP mix (\$192 = (3 x \$64)), EDTA (\$186 = (3 x \$62)), EMD Millipore Microbiological Analysis Membrane Filters (\$294 = (3 x \$98)), Filter Funnel (\$252 = (3 x \$84)), Fisherbrand™ SureOne™ Filter Tip Reload Pipette Tips for qPCR (\$168 = (3 x \$56)), Gelatin (\$87 = (3 x \$29)), Glass fiber filter disk (\$180 = (3 x \$60)), iTaq qPCR supermix (\$1,257 = (3 x \$419)), iTaq Universal SYBR® Green Supermix (\$ 705 = (3 x \$235)), PCR purification kit (\$348 = (3 x \$116)), Peptone (\$204 = (3 x \$68)), Petri dish (\$150 = (3 x \$50)), PowerWater DNA Extraction Kit (\$1,680 = (2 x \$840)), Primers (\$1,860 = (31 x \$60)), Promega GoTaq Flexi DNA Polymerase (\$174 = (6 x \$29)), Soytone (\$252 = (3 x \$84)), SYBR Safe DNA Gel Stain (\$123 = (3 x \$41)), Tryptone (\$267 = (3 x \$89)), UltraPure Tris Buffer (\$210 = (3 x \$70)), Yeast Extract (\$120 = (3 x \$40))
- 4) Sequencing analysis: DNA genomic sequencing cost: \$ 2,500 (=5 samples x \$500/sample).
- 5) Use of the special instrumentation available on campus on a recharge bases: Analyses of metabolites of PFAS \$ 3,000 (=300 samples x \$10/samples).

### Matching

Click or tap here to enter text.

**Equipment.** Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than \$5,000 per unit. **Provide number of units, cost per unit, and total item cost.** If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items. A detailed breakdown is required. **Manufacturer's quote must be provided for any equipment with a cost of \$5,000 per item or more.**

## Federal

\$2,500 - YSI sonde Exo 599101, necessary for in-field analysis of water quality

\$5,500 - MicaSense "RedEdge" multi-spectral camera, necessary to monitor plant health at field site. It is requested that the camera remain with the PIs lab after the project concludes. Manufacturer's quote attached.

## Matching

[Click or tap here to enter text.](#)

**Services or Consultants.** Identify the specific tasks for which these services, consultants, or subcontracts would be used. Provide a **detailed** breakdown of the services or consultants to include personnel, time, salary, supplies, travel, etc. An **itemized breakdown** is required for each cost. **Costs that are not explained may not be funded.**

## Federal

If there is a sub-award for the project, it must have the same level of detail including unit costs.

Sample analysis for ----, conducted by -----. 100 samples x \$30/sample = \$3,000

## Matching

[Click or tap here to enter text.](#)

**Travel.** Provide the purpose and estimated cost for all travel. **Travel costs are limited to those working on the project. For travel to conferences, provide the full name of the conference (no abbreviations), location, and approximate dates.** A separate breakdown should be provided for each trip, and it should include the destination, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate or airfare (whatever is applicable). Failure to provide the necessary information for each project **will delay the entire award. Costs that are not explained may not be funded.**

## Federal

A total of \$25,000 is requested to support the following trips:

Year 1: \$3,500 for domestic and \$3,500 for foreign travels;

Year 2: \$5,500 for domestic and \$3,500 for foreign travels;

Year 3: \$5,500 for domestic and \$3,500 for foreign travels.

There are three type of travels:

1) Collaboration between Environmental University and State Agency (domestic): Three trips (once every year) have been budgeted for PI Smith, Co-PI Waters, or their Ph.D. student to visit State Agency to learn PFAS sampling techniques, PFAS analytical techniques, and communicate on PFAS bioaccumulate in biofilms and macroinvertebrates.

2) Collaboration between Environmental University and Berlin University (foreign): Three trips (once per year) have been budgeted for Co-PI Purdue Pete or his student to visit Purdue University to collaborate on

the development of microfluidic systems and sensing techniques for PFAS detection.

3) Conference travels (domestic): Two trips (Year 2, Year 3) have been budgeted for PI Smith, Co-PI Waters, or their Ph.D. student to share results and communicate with the scientific community on PFAS bioaccumulation and biotransformation.

The details of these trips are listed as follows:

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#### Year 1

Traveling from Environmental University to State Agency (\$3,500)

# of travelers: 1

# of days: 15 days

Traveling locations: between Indianapolis, IN and St. Louis, MO

Cost of airline tickets: \$650/trip, 1 trip, total \$650

Cost of lodging per night: \$140/day, 14 days, total \$1,960

Per diem rate and source of that rate: \$52/day, 15 days, total \$780

(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)

Transportation: \$55 per ride, 2 rides, total \$110

Traveling from Berlin University to Environmental University (\$3,500)

# of travelers: 1

# of days: 10 days

Traveling locations: between Indianapolis, IN and Berlin, Germany

Cost of airline tickets: \$700/trip, 1 trip, total \$700

Cost of lodging per night: \$240/day, 9 days, total \$2,160

Per diem rate and source of that rate: \$52/day, 10 days, total \$520

(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)

Transportation: \$60 per ride, 2 rides, total \$120

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#### Year 2

Traveling from Environmental University to State Agency (\$3,500)

# of travelers: 1

# of days: 15 days

Traveling locations: between Indianapolis, IN and St. Louis, MO

Cost of airline tickets: \$650/trip, 1 trip, total \$650

Cost of lodging per night: \$140/day, 14 days, total \$1,960

Per diem rate and source of that rate: \$52/day, 15 days, total \$780

(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)

Transportation: \$55 per ride, 2 rides, total \$110

Traveling from Berlin University to Environmental University (\$3,500)

# of travelers: 1

# of days: 10 days  
Traveling locations: between Indianapolis, IN and Berlin, Germany  
Cost of airline tickets: \$700/trip, 1 trip, total \$700  
Cost of lodging per night: \$240/day, 9 days, total \$2,160  
Per diem rate and source of that rate: \$52/day, 10 days, total \$520  
(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)  
Transportation: \$60 per ride, 2 rides, total \$120

Conference trip (\$2,000)

# of travelers: 1  
# of days: 4 days  
Traveling locations: between Indianapolis, IN and Boston, MA  
Conference: Association of Environmental Engineering and Science Professors, Research & Education Conference  
Cost of airline tickets: \$380/trip, 1 trip, total \$380  
Cost of lodging per night: \$234/night, 3 nights, total \$702  
Per diem rate and source of that rate: \$52/day, 4 days, total \$208  
(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)  
Registration fee: \$650  
Transportation: \$30 per ride, 2 rides, total \$60

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Year 3

Traveling from Environmental University to State Agency (\$3,500)

# of travelers: 1  
# of days: 15 days  
Traveling locations: between Indianapolis, IN and St. Louis, MO  
Cost of airline tickets: \$650/trip, total \$650  
Cost of lodging per night: \$140/day, 14 days, total \$1,960  
Per diem rate and source of that rate: \$52/day, 15 days, total \$780  
(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)  
Transportation: \$55 per ride, 2 rides, total \$110

Traveling from Berlin University to Environmental University (\$3,500)

# of travelers: 1  
# of days: 10 days  
Traveling locations: between Indianapolis, IN and Berlin, Germany  
Cost of airline tickets: \$700/trip, 1 trip, total \$700  
Cost of lodging per night: \$240/day, 9 days, total \$2,160  
Per diem rate and source of that rate: \$52/day, 10 days, total \$520  
(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)  
Transportation: \$60 per ride, 2 rides, total \$120

Conference trip (\$2,000)

# of travelers: 1

# of days: 4 days

Conference: American Society for Microbiology General Meeting

Traveling locations: between Indianapolis, IN and Atlanta, GA

Cost of airline tickets: \$300/trip, 1 trip, total \$300

Cost of lodging per night: \$160/night, 3 nights, total \$480

Per diem rate and source of that rate: \$52/day, 4 days, total \$208

(source: <https://www.purdue.edu/procurement/travel/regulations/meals.php>)

Registration fee: \$950

Transportation: \$31 per ride, 2 rides, total \$62

### Matching

Click or tap here to enter text.

**Other Direct Costs.** Itemize costs not included elsewhere, including publication costs. Costs for services and consultants should be included and justified under “Services or Consultants” (above). Please provide a detailed breakdown for costs listed under this category (hours or rates, number of samples, total cost per item). **Costs that are not explained may not be funded.**

### Federal

Nutrient Stakes, Western Lab, \$75 per sample, at 3 field sites x 2 seasons per site = \$450

Publications: \$150/ page, four pages, estimate \$600 for Journal Environmental Quality.

\$500 to use University Imaging Center for two hours for publication quality images of larvae.

Open access journal publication fee to publish a full research paper on the open access journal Management of Biological Invasions. \$2,000

### Matching

Click or tap here to enter text.

**Indirect Costs.** Provide negotiated indirect (“Facilities and Administration”) cost rate. If indirect costs are provided, please include a copy of your current Indirect Cost Rate Agreement so the rate can be verified.

### Federal

No indirect funds are requested on federal funds as per sponsor guidelines. All indirect costs are included in Environmental University cost share match (on federal and non-federal funds). Environmental

University has a negotiated federal rate with DHHS at 57% MTDC for research

**Matching**

All indirect costs are included in Environmental University cost share match (on federal and non-federal funds). Environmental University has a negotiated federal rate with DHHS at 57% MTDC for research.