

Dragonfly Mercury Project

The Tipping Point



Lake Clark National Park & Preserve, AK

Description

The Dragonfly Mercury Project (DMP) is a national scale effort tying scientific efforts to understand mercury pollution risks to protected lands with citizen engagement and education. It is an excellent example of an experiential partnership that brings together government and academic scientists, land managers, and public participants of all ages. Since 2013, greater than 2,500 citizen scientists in over 90 U.S. national parks from Alaska to Florida and from California to Maine have contributed more than 10,000 hours and collected close to 7,500 dragonfly larvae for the DMP. The broad geographic coverage of this science is possible because of the participation of citizen scientists. Entering its 8th field season in 2018, the DMP seeks to better facilitate citizen science engagement, enhance the experience of the public participants, and expand partnerships and data collection efforts. Securing funding from a corporate partner would provide project certainty, improve project implementation, further educational outreach initiatives, and increase coordination among participating partners.

Milestones

The four main milestones a corporate sponsorship would help the DMP achieve are as follows:

- **PROJECT CONTINUITY**

With the exception of 2014-2015, the DMP has operated on a year-to-year budget, with no certainty in funds from one sampling season to the next. NPS funds from parks, regions, I&M networks, and program offices largely sustained the study in 2016-2017. A corporate sponsorship would ensure operational costs, including engagement with citizen scientists, are covered in 2018-2020, and partway into 2021.

- **EDUCATIONAL OFFERINGS**

A corporate sponsorship would allow the DMP to express the project's untapped educational potential. Namely, both a Teacher Training and Dragonfly Mercury Symposium for students would be offered to expand the DMP's outreach efforts. Furthermore, innovative outreach

product development would creatively and interactively help train and provide materials to those conducting and participating in field sampling events.

- **PROJECT COORDINATOR**

Administrative, logistical, and technical aspects of the DMP are currently divided among a small project team, with other duties as assigned. Corporate sponsorship would allow for the hiring of a DMP Project Coordinator who would not only facilitate the project, but also focus on the project's educational outreach initiatives and development of partnerships.

- **PROMOTION FROM PROJECT TO PROGRAM**

Ultimately, the work as described lays the foundation over multiple years to transition this NPS-centric project to a broadscale, more influential, interjurisdictional program that carries the program into the foreseeable future.

Timeline

WINTER 2017/2018: Hire Project Coordinator

*SPRING 2018: Facilitate DMP on-the-ground operations, partnerships, and educational strategy; Annual DMP Meeting

*SUMMER 2018: Dragonfly larvae sampled and shipped to USGS; Develop educational products

*FALL 2018: Analyze samples for mercury

*WINTER 2018/2019: Address project implementation challenges and opportunities

*SPRING 2019: Reporting complete for 2018 study

*CONTINUE CYCLE OF PROJECT OPERATIONS THROUGH SPRING 2021, ADD OUTREACH OBJECTIVES IN 2020:

WINTER 2020: Initiate development of innovative outreach products, plan Teacher Training

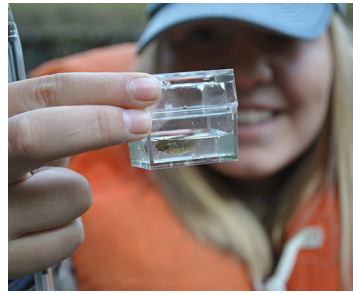
SPRING 2020: Host Teacher Training

SUMMER 2020: Plan Dragonfly Mercury Symposium

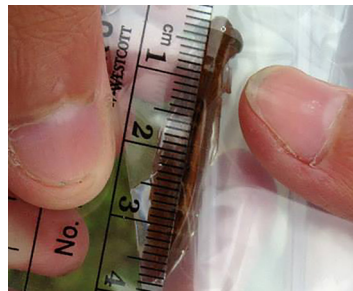
FALL 2020: Host Dragonfly Mercury Symposium

WINTER 2020/2021: henceforth, Dragonfly Mercury *Program*

Budget - Operations:
2018 (Year 1)
2019 (Year 2)
2020 (Year 3)



Glacier NP, MT



Acadia NP, ME

SAMPLE ANALYSIS - 60 NPS units (USGS/UMaine)	\$100,000
Includes up to 3 sites per park, Shipping/Supplies, Total mercury analysis	
PROJECT SCIENTIST	
Oversight	
• USGS (sampling coordination, data management, sample preparations)	\$40,000
• UMaine (sampling coordination, outreach products)	\$30,000
Travel to Parks	
• USGS	\$2,500
• UMaine	\$2,500
PROGRAM COORDINATOR	
50% time, GS-9 or equivalent	\$50,000
• Develop educational strategy for project's future	
• Coordinate webinars and annual summaries	
• Facilitate project between NPS/USGS/UMaine	
• Forge new partnerships and secure funds for continued success of DMP	
Travel	\$10,000
ANNUAL DMP CORE TEAM MEETING	\$15,000
In-Kind Contributions estimated at \$200,000 (80% funding match - Operations)	(\$0)
• Citizen scientists for 40 hrs (\$20/hr) * 60 parks = \$48,000	
• NPS Staff Support: GS 7-9 (one per park) for 80 hrs * 60 parks = \$138,000	
• NPS Staff Support: GS 12 (ARD) for 15% time = \$14,000	
TOTAL ANNUAL OPERATION COSTS, x3 - YEAR 1 (2018), YEAR 2 (2019), YEAR 3 (2020)	\$250,000

Budget - Outreach:
2020 (Year 3)
2021 (Year 4)



Olympic NP, WA

PROJECT SCIENTIST, OVERSIGHT	
• USGS	\$12,500
• UMaine	\$25,000
PROGRAM COORDINATOR	
(Additional) 50% time, GS-9 or equivalent	\$50,000
• Plan Teacher Training and Dragonfly Mercury Symposium	
• Oversee development of outreach products used to market programs	
Travel	\$2,500
OUTREACH PRODUCTS, SUB-CONTRACT	\$50,000
TEACHER TRAINING	\$70,000
• Travel costs/stipends for 30 teachers/park staff, Speakers, Venue, etc.	
DRAGONFLY MERCURY SYMPOSIUM	\$40,000
• Travel costs for 30 students, Venue, etc.	
TOTAL OUTREACH COSTS - YEARS 3-4 (2020-2021)	\$250,000

TOTAL BUDGET

TOTAL OPERATION COSTS (YEARS 1, 2, 3 @ \$250,000 EACH)	\$750,000
TOTAL OUTREACH COSTS (YEARS 3-4 @ \$250,000)	\$250,000
GRAND TOTAL (2018-2021)	\$1,000,000

For More Information

Project Webpage
<http://go.nps.gov/dragonflymercury>

Contacts

Colleen Flanagan Pritz, NPS ARD // Denver, CO colleen_flanagan_pritz@nps.gov , 303-969-2806	Collin Eagles-Smith, USGS // Corvallis, OR ceagles-smith@usgs.gov , 541-750-0949
Carol McCoy, NPS ARD // Denver, CO carol_mccoy@nps.gov , 303-969-2096	Sarah Nelson, UMaine // Orono, ME sarah.j.nelson@maine.edu , 207-581-3454