

LEAD BUDGET JUSTIFICATION – University of Idaho

A. SENIOR PERSONNEL

A1. Sophie Gilbert, PI: Lead PI Sophie Gilbert (base salary \$ 77,719) will devote 1.0 summer months in years 1, and 0.5 summer months in year 2-4 to administer the project, supervise a graduate student, and implement the mechanistic ecological and linkages portions of the study design. Sophie Gilbert is an expert in large mammal ecology and predator-prey relationships and has a strong publication record. Requested salary for Year 1 is (\$8,635) with an increase of 2% for each subsequent year. Total request for project duration is \$22,144.

A2. Chloe Wardropper, co-PI: Chloe Wardropper (base salary of \$76,456), will take 0.5 summer months of salary years 1 through 4. During year 1, Wardropper will plan and coordinate interviews with Martin, travel to Oregon to help conduct interviews, help coordinate an advisory board meeting, and work with co-PIs to create research plans and protocols. During year 2, she will supervise the PhD student in rancher survey data collection and analysis. In year 4, Wardropper will contribute to the social-ecological model and decision support tool, and in year 5 she will write manuscripts. Wardropper will participate in team meetings every year. Requested salary for Year 1 is (\$4,248) with an increase of 2% for each subsequent year. Total request for project duration is \$17,507.

A3. Lucas Sheneman, Senior Personnel - NKN: Lucas Sheneman (base salary \$96,325) will devote 0.15 FTE in year 1-3 and 0.1 FTE in year 4 to the project. He will fill the role of Systems Architect and Data Manager, and will deploy and manage the backend infrastructure used for the modeling, data integration, GIS services, and APIs and help organize, annotate, publish, and archive all project data at NKN. He is the Director of the Northwest Knowledge Network (NKN) at the University of Idaho where he manages a diverse team of programmers, web/mobile application developers, database and systems administrators, and data managers. Requested salary for Year 1 is (\$14,449), with 2% increase included. Total salary requested is \$54,441.

Per Chapter II.C.2.g(i)(a), of the current PAPPG (Senior Personnel Salaries & Wages Policy), the Regents of the University of Idaho have determined the definition of salary year to be based on a calendar year.

B. OTHER PERSONNEL

B1. Research Associate (Jeff Martin): Jeff Martin (base salary \$52,000) will devote 6 calendar months in Year 1 conducting interviews and training a graduate student in interview techniques, and analyzing resulting data and preparing a manuscript for publication. Requested salary for Year 1 is \$26,000, with a 2% annual increase, and total request for project duration is (\$26,000).

B2. Research Applications Architect. The Research Applications Architect, through Northwest Knowledge Network, will receive a base salary of \$70,000 and will devote 0.3 FTE in years 1-2, 0.2 FTE in year 3, and 0.1 FTE in year 4 of the project. They will design, develop, and deploy the front-end mobile and desktop applications. Requested salary for Year 1 is (\$21,000), and no annual increase is included. Total salary requested is \$63,000.

B3. Graduate Students: PhD Student (base salary \$26,000) will devote 9 calendar months per year at 0.5 FTE, and 3 calendar months per year at 1.0 FTE (support requested in years 1-3 only) to the project to carry out ecological and fine-scale rancher decision-making study implementation, including fieldwork, rancher interviews, and camera deployments, along with

data analysis, manuscript preparation, and dissemination of results. Requested salary for year 1 is (\$26,039), with a 2% increase each year and an increase to (\$29,305) following advancement to Ph.D. candidacy in year 3, and total request for project duration is (\$81,903). One social science Master's student will be paid for one semester in year 2 to lead survey logistics and supervise two undergraduate students. Master's student will be paid \$19 per hr for 390 hrs (\$7,410 total).

B4. Undergraduate Students: Undergraduate Student (Ecological) will work during the 3 summer months each year to assist with field data collection. They will work 520 hours at \$15/hr base rate in years 1-3 of the project, with a 2% increase per year, for a total request of (\$23,871) for the duration of the project. Undergraduate students (Social) will work during year 2 on logistics of sending and receiving mail surveys. They will receive \$15 per hour for 300 hours total for (\$4,500).

B5. Secretarial-Clerical: None

C. FRINGE BENEFITS: Fringe benefit costs have been calculated using current and projected negotiated rates between University of Idaho and the federal government. PI Sophie Gilbert and Chloe Wardropper benefits are calculated at 30.7% calendar year rate, Postdoctoral Researcher (Jeff Martin) and NKN personnel benefits are calculated at 41.8% calendar year rate, graduate student benefits are calculated at a 2.1% calendar year rate, and undergraduate student benefits are calculated at 2.1% calendar year rate. Total request for project duration is \$73,794.

D. EQUIPMENT: No equipment is requested for this project.

E. TRAVEL:

E1. Domestic:

- a. **Conference Travel:** Travel to annual professional meeting (e.g., the Society for Conservation Biology) is requested for the PI (Gilbert), Co-PI (Wardropper) and PhD student to present scientific results of this proposed research in years 3-5. The cost of attending is estimated as follows: coach-fare ticket (\$750); convention hotel rate \$120/night * 5 nights (\$600); per diem \$55/day * 6 days (\$330); meeting registration (\$500), ground transportation (\$100). Total per individual (\$2,289) * 3 people for a total (\$6,840) per year, and a total request of (\$20,933) for the project.
- b. **Travel to Field Sites:** Travel to and around the field sites are requested, with an annual rate increase of 2% assumed. Costs include: rental of 1 truck from FlexFleet for 5 months/year in year 1, and 4 months/year in years 2-3 at \$1,200/month (including delivery and insurance), for a total of (\$15,600 total); fuel for the field truck, calculated as 150 miles/day, 28 days/month, 15 miles/gallon, \$3.50 per gallon for a total of \$980/month (5 months in year 1, 4 months/year in years 2-3; \$12,740 total); mileage costs when personal vehicles are used, calculated for Gilbert as 2 trips per year in year 1 and 1 per year in years 2-3 from Moscow, ID (800 miles roundtrip at \$0.575 per mile for \$1,868 total), for the PhD student as 2 trips per year in years 1-3 plus 10 additional trips at 200 miles round-trip in year 1 (\$0.575 per mile; \$3,985 total), for Wardropper as 2 trips per year in years 1-3 (800 miles roundtrip at \$0.575 per mile for \$2,816 total), and for Martin as round-trip travel to Oregon from California in year 1 (1200 miles roundtrip at \$0.575 per mile for \$690 total). We request field housing for 5 months in year 1, 3 months in years 2-3 at \$1,100/month (\$15,400). Food during fieldwork for 24 weeks in year 1, and 16 weeks in years 2-3 at \$250/week (\$11,181).

We also request per diem for travel to and from the field sites, for a total of 34 days in year 1, and 12 days in year 2-3, at \$55/day (\$3,230). Total field travel costs requested are (\$11,768).

- c. **Travel to Project Annual Meeting:** Gilbert, Wardropper and the PhD student will travel to the annual meetings. The first annual meeting will be conducted via zoom (winter 2021; \$0), while the second will be combined with an in-person advisory board meeting in La Grande, OR. Costs for the second annual meeting include mileage round-trip (367 miles at \$0.575/mile) to La Grande (\$211), lodging at \$100 per night for 3 nights (\$300/person), and meals and incidentals (\$55/\$42 per day in Oregon, 3 days, \$194/person), for a total per-person cost of (\$705) and a total cost of (\$1,693). The third annual meeting will be conducted during the Society for Conservation Biology annual meeting (covered under conference travel), and the final project meeting in year 4 will be conducted at the University of Michigan in Ann Arbor, with per-person costs including coach-fare ticket (\$750); hotel rate \$150/night * 3 nights (\$450); per diem \$61/\$46 per day * 3 days (\$214); ground transportation (\$100), for a total per individual (\$1,514) * 3 people for a total (\$4,542). Total requested for the project is (\$6,235)
- d. **Travel to NSF Annual Meeting:** Travel to is requested for the PI (Gilbert) and Co-PI (Wardropper) to attend an annual NSF project meeting in Alexandria, VA, each year of the project. The cost of attending is estimated as follows: coach-fare ticket (\$750); convention hotel rate \$258/night * 3 nights (\$774); per diem \$76/\$57 per day * 3 days (\$266); ground transportation (\$150). Total per individual (\$1,940) * 2 people for a total (\$3880) per year, and a total request of (\$20,192) for the project.

F. PARTICIPANT SUPPORT COSTS: None requested.

G. OTHER DIRECT COSTS

G1. Materials and Supplies: (\$212,490 total)

- a. **(Ecological)** Camera traps, 50 per site * 6 sites = 300 cameras, and assuming 10% replacement needed in years 2 and 3 = 360 total cameras @ \$400 (\$144,000). Camera trapping supplies (replacement batteries, mounting brackets, locks), 360 @ \$100 (\$36,000). Cellular data plan (\$42/year per camera, \$6,300 total). E-bikes, \$2,000 per bike, 4 bikes total, plus \$500 maintenance in years 2-3 (\$9,000). Year one purchases include: Emergency beacons 4 @ \$450 (\$1,800), 2-way radios 4 @ \$225 (\$900), First aid kits 4 @ \$100 (\$400) and other misc. supplies such as backpacks and notebooks totaling (\$1,000).
- b. **(Social)** We request two voice recorders at \$50/unit for the interviews in year 1 (\$200 total). The rancher survey in year 2 will have an overall structure of Wave 1 (Full survey packet and return envelope), Wave 2 (postcard reminder for non-respondents), and Wave 3 (Full survey packet and return for non-respondents), with a full sample of 2,000 ranchers across Oregon, Idaho, and Montana. The materials will include: postage for 7,000 (primary and return mailing) large envelopes (\$1/unit) and 1,500 postcards (\$0.35/unit), 3,500 10x13 (primary) envelopes (\$0.08/unit), 3,500 9x12 (return) envelopes (\$0.05/unit), and 1,800 postcards (\$0.1/unit), 3,500 survey booklets (\$0.25/unit), and 2 label packs (\$65/unit).
- c. **(General)** Laptop computer for PhD student (\$2,000), along with 8 external 3GB harddrives @ \$100 (\$400) and 10 64GB thumb-drives @ \$20 (\$200) for field data management and backup, and we will purchase the qualitative analysis software NVivo to code interview data at a cost of \$1400, for a total of (\$4,400).

G.2. Publication Costs: \$3,000 total. Publications expected in peer reviewed journals. 5 articles, average of 12 pages each article @ \$50/page.

G3. Consultant Services: \$0

G4. Computer Services: \$19,000 total. The Northwest Knowledge Network (NKN), at the University of Idaho, will provide data storage, management, processing, and application hosting (\$4,750 per year, years 1-4).

G5. Subawards/Consortium/Contractual Costs: \$432,501 total.

a. **University of Michigan** (\$265,081) will be responsible for the broad-scale analysis of decision-makers (wildlife managers) responses to social and environmental factors, and will assist with the fine-scale ecological analysis.

b. **Ohio State University** (\$167,420) will assist with the social data analytical components at both spatial scales, as well as survey design.

G6. Other: \$66,130 total.

a. **Interview transcription.** \$2,250 total. We will employ a company to transcribe interview recordings in year 1 at a cost of \$45 per hour for 50 hours of voice recordings.

b. **Service agreement.** \$4,622. We will contract with the University of Idaho Rangeland Center to host workshops in years 2 and 4 to solicit feedback on our decision-support tool.

c. **Outreach film.** \$10,000. We will work with a documentary film production company to produce a short (~5-10 min) film about the project, including results.

d. **Rancher data acquisition.** We will acquire addresses for 2,000 ranchers from the company Farm Market ID for \$500 in year 2.

e. **Tuition/Fees/Insurance:** \$44,758. The project will support 1 PhD student - \$10,368 per academic year tuition (\$4,938 per semester and \$492 summer credit), 3 academic years, assuming a 5% annual increase in costs (\$33,332 total); health insurance \$951 per semester, 3 academic years (6 semesters), assuming a 5% annual increase in costs (\$5,996 total). One Master's student will receive tuition for one semester in year 2 while they manage survey logistics, at \$4,938 for one semester of tuition plus \$492 in fees (\$5,430 total), along with health insurance (\$999).

f. **Human Subject Incentives.** \$4,000 total. We will incentivize survey participation by randomly drawing 40 winners of \$100 giftcards from among participants that complete our 2000 surveys in year 2.

I. INDIRECT COSTS:

Grant Year	Year 1	Year 2	Year 3	Year 4	Year 5
IDC base	\$375,086	\$193,667	\$153,821	\$59,479	\$11,316
IDC	\$178,166	\$91,992	\$73,065	\$28,252	\$5,375

Indirect costs (\$376,850) were calculated using the on-campus, research rate per our DHHS NICRA dated 6/27/17 at 47.5% of Modified Total Direct Costs which excludes equipment over \$5,000, capital expenditures, charges for patient care, tuition remission, rental costs of off-site facilities, scholarships, participant support costs, and fellowships as well as that portion of each subgrant and subcontract issued in excess of \$25,000.

J. TOTAL DIRECT AND INDIRECT COSTS: Total Direct Cost: \$1,220,980; Modified Total Direct Cost: \$793,369; Indirect Cost: \$376,850.

L. AMOUNT OF THIS REQUEST: \$1,597,830.