Work scope details:

Title:** Biological and Sensitive Species Surveys

Work Scope Summary:
This work plan involves activities related to wildlife management on the Oak Ridge Reservation (ORR), focusing on ecological and natural resource research and ecosystem monitoring. The scope includes animal surveys, live animal trapping and collection, and wildlife management, with specific protocols and permits required for handling certain species. The work is controlled by additional protocols and training, and participants must adhere to safety measures to mitigate hazards associated with fieldwork.

Key Work Scope Components:
- Conducting ecological and natural resource research and ecosystem monitoring
- Performing animal surveys, live animal trapping, and collection
- Managing wildlife, including handling and euthanizing small mammals
- Ensuring compliance with permits and protocols for handling specific species
- Implementing safety measures to mitigate hazards such as animal-borne diseases and environmental risks

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Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference Link
The Safe Conduct of Research: Cutting Edge Science Requires Cutting Edge Safety	PNNL researchers planned a project involving a highly-toxic chemical agent, necessitating rigorous safety protocols. Collaboration with subject matter experts ensured readiness and adherence to safety principles.	Emphasizes the importance of rigorous safety protocols and readiness activities, going beyond compliance to ensure safety in high-risk research.	Link
Fatal Laboratory Accident at Yale University (Animal Research, 2023)	A research assistant was fatally strangled by her hair while working with machinery in an animal research lab, highlighting the need for strict safety protocols.	Reinforces the critical need for strict adherence to safety protocols, proper lab attire, and emergency preparedness in research environments.	Search "Yale lab accident 2023" on news sites
Avian Influenza Outbreak in U.S. Wildlife and Poultry (Ongoing, 2024)	HPAI spread among wild and domestic birds in the U.S., leading to significant mortality and biosecurity measures. The NWHC coordinates monitoring and prevention efforts.	Highlights the importance of disease monitoring, control, and biosecurity measures in wildlife management and laboratory safety.	Refer to USGS National Wildlife Health Center and USDA APHIS bulletins
Wind Energy-Related Wildlife Mortality Studies (Ongoing, 2021–Present)	Studies on bird and bat mortality at wind farms, evaluating collision factors and developing mitigation strategies.	Underlines the need for ongoing ecological monitoring, adaptive management, and adherence to safety and regulatory protocols.	Visit the Loss Lab’s official site

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference link	SBMS Link
Ergonomic conditions (e.g., repetitive motion, posture)	Not addressed	Conduct ergonomic assessments and implement workstation evaluations, diversify activities, provide PPE, and schedule stretch breaks	Link	Link
Animal-borne diseases (e.g., hantavirus, rabies, Lyme Disease)	Not addressed	Implement safe work practices for handling wildlife, consider vaccination programs, and assess environmental impacts	Link	Link
Exposure to venomous insects and animals (e.g., snakes, bees, fire ants)	Inadequate control measures	Provide training on identifying venomous species, use protective clothing, and apply insect repellents	Link	Link
Environmental hazards (e.g., trip/fall hazards, uneven surfaces)	Not addressed	Implement housekeeping and workplace organization training, conduct hazard awareness training	Link	Link
Handling of rabies vector species	Not addressed	Develop procedures for safe handling of rabies vector species and provide training on rabies exposure risks	Link	Link
Exposure to plants like poison ivy	Not addressed	Educate workers on identifying poisonous plants, provide PPE, and implement safety protocols for outdoor work	Link	Link
High workload and time pressures	Not addressed	Implement workload management strategies, provide stress management training, and ensure adequate staffing	Link	Link

Distractive environment and imprecise communications	Not addressed	Improve communication protocols, reduce environmental distractions, and provide training on effective communication	Link	Link
Inadequate hydration during fieldwork	Not addressed	Educate workers on the importance of hydration, provide access to water, and implement heat stress management protocols	Link	Link
Exposure to ticks and mosquitoes	Inadequate control measures	Provide training on tick and mosquito prevention, use repellents, and conduct regular checks for ticks	Link	Link

Failure mode analysis:

Current control	Failure mode of the control	Effect of Failure	Cause of Failure	Recommended action
Written permits for the work activity	Permit not obtained or expired	Unauthorized work leading to legal issues or project delays	Lack of awareness or oversight in permit management	Implement a permit tracking system and regular audits to ensure all permits are current and valid
Personal Protective Equipment (PPE)	PPE not used or inadequate	Increased risk of injury or exposure to hazards	Lack of training or availability of appropriate PPE	Conduct regular PPE training and ensure availability of necessary equipment at all times
Work instructions & safety procedures	Non-compliance with procedures	Increased risk of accidents or incidents	Inadequate training or supervision	Regular training sessions and supervision to ensure adherence to procedures
Radiological Work Permit (RWP)	RWP not followed or updated	Exposure to radiological hazards	Miscommunication or outdated information	Regular updates and communication regarding RWP requirements and changes

Exposure Assessment	Incorrect classification of exposure risk	Unanticipated health risks to workers	Inadequate assessment or data	Implement a robust exposure assessment protocol with regular reviews and updates
Emergency Response	Inadequate response to emergencies	Increased severity of incidents	Lack of training or unclear procedures	Conduct regular emergency drills and ensure clear communication of emergency procedures
Situational Awareness	Lack of awareness of surroundings	Increased risk of accidents or incidents	Distractions or lack of training	Emphasize situational awareness in training and conduct regular field assessments
Wildlife Management Permits	Non-compliance with permit conditions	Legal repercussions and project delays	Misunderstanding of permit requirements	Regular reviews of permit conditions and compliance checks
Use of Insect Repellent	Incorrect use or type of repellent	Increased risk of insect-borne diseases	Lack of knowledge or incorrect application	Provide training on proper use and selection of insect repellents