



lars in damage from fecal contamination and the nesting activities of starlings, pigeons, and gulls. Bird droppings are corrosive to paints, metals, and other building materials, and pose health hazards to workers and the public. The cost of cleaning and repainting a single bridge spanning the Columbia River can exceed \$1 million. Starlings, pigeons, and gulls also cause more than \$6 million in damage to Washington's fruit industry annually. Migrating Canada geese are another bird species that cause substantial damage to crops. Washington is also home to a rapidly expanding population of urban Canada geese that are year-round residents in area cities. Populations of urban geese have caused millions of dollars in damages to city parks and private properties over the past several years. Disease concerns have even led to the closure of several public swimming beaches.

For decades, NWRC has been the leader in investigating and developing methods for managing bird damage to agriculture and property, and threats to public health and safety. NWRC scientists have been responsible for the development of many of the management tools in use today, including repellants, capture techniques, and ecologically safe toxicants.

Each year, Washington WS provides preservation advice and direct assistance for urban Canada goose problems at more than 100 locations in the Puget Sound area. WS also provides assistance with gull, pigeon, and starling problems throughout the State.

**Protecting Threatened and Endangered Species**—Washington WS protects threatened and endangered species from wildlife predation and damage. The State is home to six runs of threatened and endangered salmon and steelhead. Nine more runs are listed as proposed or candidate species by the National Marine Fisheries Service due to declining populations.

NWRC scientists have researched ways to reduce or relocate gull colonies that threaten downstream migrant salmon and steelhead. Research on egg oiling techniques and sight barriers have provided new management alternatives for resolving gull problems. Other innovations include the development of overhead wiring systems that exclude gulls and other fish-eating birds from dam areas where the worst predation occurs. In cooperation with Federal and State agencies, WS has installed overhead wire grids at all Washington dams along the Columbia/Snake River system where downstream migrant salmon and steelhead smolt pass.

In addition to protecting threatened and endangered fish species, WS has helped to protect the endangered Columbian white-tailed deer and the pygmy rabbit from coyote depredation and the program stands ready to provide future assistance as needed. WS also protects the Indian paintbrush, an endangered plant, from rodent damage.

## Looking to the Future

For Washington wildlife managers, public safety has become a growing concern. This is particularly true at airports. Increased travel through Washington airports, coupled with the population growth of many bird species, have created a greater need for airport managers to deal with threats posed by wildlife.

Urban Canada geese are another threat to public safety and property in Washington. WS is increasingly being asked to manage urban Canada goose populations that cause property damage and health concerns. While community leaders are turning to WS for assistance, the program is challenged by limited resources.

A third concern in Washington is increasing predator damage to livestock, agricultural, and forestry resources. State and private entities are turning to WS for much needed assistance in managing damage caused by coyotes and other predators. Current regulations, however, restrict trapping in Washington, making it more difficult and expensive for WS to help. These restrictions, in combination with WS' limited resources, could lead to unresolved problems with predators throughout the State.

## Washington Wildlife Services Funding ●●●●●●●●

In addition to receiving federally allocated funds, WS also receives money from cooperators; such as producers; private individuals; businesses; and other Federal, State, and local government agencies who have a vested interest in the program. In most cases, these cooperators need help to resolve wildlife damage problems or they play a role in wildlife damage management.

