

WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES

PRIORITY SCIENCE AND RESEARCH NEEDS

The Western Association of Fish and Wildlife Agencies (Association) was asked earlier this year by Russ Mason, the IAFWA Science and Research Liaison, to identify its regional science and research needs. The request is part of a broader national effort by the IAFWA to better integrate the needs of the state fish and wildlife agencies into the planning, and eventual funding, for science and research undertaken by resource agencies of the federal government. The Association was asked to think in broad terms for those priority needs that likely cannot get accomplished without substantial federal fiscal and human resources.

The Association, founded in 1922, is a quasi-governmental organization of public agencies charged with the protection and management of fish and wildlife resources in the western part of the United States and Canada. Currently there are 23 member agencies, 19 of which are states that encompass more than half the geographic area of the United States. The Association, therefore, is in a good position to undertake this task because it has been a key organization in the promotion of the principles of sound resource management and the strengthening of federal, state and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest for more than 80 years.

Following the request from the IAFWA, the directors discussed the topic at the mid-winter (2005) Directors' Forum, and a general call for suggestions was launched. Agencies were asked to submit both terrestrial and aquatic priorities. When the last of the input was received in March, the listing included 30 different suggestions. These covered the spectrum from disease and wildlife health to genetics to habitat to human dimensions to invasive species to management to water.

Listed below are the Association's science and research priorities for the foreseeable future. They cover many disciplines and are grouped into three categories: "terrestrial", "aquatic" and "cross-cutting" (i.e. those that have both terrestrial and aquatic application). This effort marks the first time the Association has ever attempted to prioritize its science and research needs for any purpose. The needs statements appear here in similar verbiage to what was received. Only minor editing was done during the review and summarization process.

Terrestrial Priorities

- Surveillance, monitoring, and management techniques for wildlife diseases. How to better determine disease presence and prevalence. How can we manage for wildlife diseases in free-ranging populations of wildlife? What are the next emerging disease issues? What impact will diseases have on free-ranging wildlife populations?

- Effects of forest health restoration projects on resident and migratory wildlife species.
- Effectiveness of permeability structures and other mitigation measures or methods to reduce impacts of roadways (direct via mortality, indirect via fragmentation).

Aquatic Priorities

- Evaluate the role of wetlands in improving groundwater quality and quantity. Evaluate the efficacy of various restoration, enhancement, and management techniques on all types of wetlands as related to hydrology, runoff, sedimentation, wetland quality, and land-bird use, including research to better link ecological relationship between aquifers and springs ecosystems.
- Methodologies for determining ecological water needs (quantity and quality) of fish and wildlife on an ecosystem level and land management strategies that generate water of ecological significance.
- Strategies for determining and implementing instream flows and freshwater inflows adequate to sustain the ecological health of rivers, streams, receiving lake and reservoirs, and receiving bays and estuaries.

Cross-cutting Priorities

- What are the demographics and spectrum of wildlife conservation and management interests of people who actually contribute to the Pittman-Robertson Wildlife Restoration, Dingell-Johnson Fish Restoration, and Wallop-Breaux funds through excise taxes on purchases of firearms, ammunition, tackle, fuels, and other qualifying items.
- Best management practices to restore ecological function of biotic communities, particularly forests, grasslands, and aquatic systems.
- Evaluation of the efficacy of conservation programs on private and public lands. Are the results achieved the desired results for overall ecosystem health? How could federal and state habitat enhancement and conservation programs be improved?
- All types of research on the impact of, management of, and spread of invasive plant and animal species on native flora and fauna.

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Other Needs

In addition, in an effort to provide maximum flexibility and opportunity to the IAFWA as it engages the federal agencies in discussions, the remaining Association science and research needs that were not selected, but still may have utility as this process moves forward, are listed below:

- Establishment of wildlife health monitoring protocols on a regional basis.
- Survey methods for small and mid-size carnivores.
- Development of a national genetics library/catalog for identifying species. Genetics is and will continue to be a hot button item. Our ability to define an animal by its genetics and to conserve that animal is and will be critical. A standardized library upon which we can all rely would reduce the level of controversy surrounding these issues and standardize practices.
- Research on criteria for genetic variation (when dealing with listing and delisting of species there is quite a bit of discussion on what is acceptable for designation of subspecies.) This also goes for translocation of wildlife as well, which population is acceptable for movement (movement of Texas cougars to Florida).
- Study feasibility of restoring significant (large scale) southwestern aspen habitats to their rightful conditions using fire.
- A comprehensive study in arid rangeland systems where livestock (cattle) are combined into one large herd and moved through the landscape over the course of a season thus achieving some sense of shorter duration/higher intensity grazing scheme and the systematic measuring of various things such as plant vigor, diversity, health and changes in total forage production under this type of grazing over time. This concept is discussed in a book titled "Beyond the Rangeland Conflict" which discusses a variety of areas in the West where this approach has been tried and showed some success.
- Assess (measure) if habitat loss due to oil and gas development can be effectively mitigated and result in improved habitat (deer as example) by testing whether for every acre of habitat diminished or removed by oil and gas, at least ½ acre of extremely high quality or benefit is created. For example, if oil and gas causes the loss of 1 acre of a mediocre type, but is offset by the creation or conversion of ½ acre to a different, sustainable type with enhanced wildlife values.
- Acceptability among scientists and citizenry of differing genetic composition for restored populations of various kinds of species.

- Comparative citizen acceptance and toleration of fish and wildlife harvest processes
- Developing agency and citizen accepted estimation and modeling of economic values related to wildlife-associated recreation
- Social models for resolving wildlife-human conflicts in a multiple stakeholder aegis: who is affected and who contributes?
- How much are people desiring biodiversity willing to give up? Financially or way of life (desire to live right in the middle of some critical habitat, or participate in activities that may impede a species success).
- What is the social expectation of biodiversity within a political boundary, and how much effort should managers go to toward re-establishing extirpated species?
- A comprehensive study to support definitive statements about the differences with how elk utilize habitat and forage versus cattle utilization of same. The main emphasis should probably be timing, intensity and frequency with a comprehensive assessment of forage health and diversity after utilization of each.
- What resolution constitutes an acceptable social and technical population modeling outcome?
- Effectiveness of regulation and associated enforcement on species management.
- Methodology to fill in information gaps identified through the Comprehensive Wildlife Conservation Strategy process. What is missing and how do we find it? How can we best address the opportunities identified through this process.

The Association applauds the IAFWA for initiating this action, and its members look forward to seeing additional state-relevant science and research undertakings from our federal agency counterparts in the future. The Association stands ready to assist in further refining these priorities and getting them integrated into the federal process, and implemented.