



# State Wildlife Action Plan E-Newsletter

## Revised Wyoming State Wildlife Action Plan Available for Public Comment

An initial draft of Wyoming's revised State Wildlife Action Plan is complete and available for review on the Wyoming Game and Fish Department (WGFD) webpage <http://gf.state.wy.us/SWAP2010/index.asp>. Wyoming's State Wildlife Action Plan (SWAP) is a comprehensive strategy to maintain the health and diversity of wildlife within the state, including reducing the need for future listings under the federal Endangered Species Act. The SWAP was produced as part of the U.S. Fish and Wildlife Service State Wildlife Grants program. Wyoming's SWAP, formerly called the Comprehensive Wildlife Conservation Strategy, was first developed in 2005 and planned to be revised every five years. The SWAP is coordinated with other wildlife and natural resource agencies and organizations. Public input is also an integral part of the development and implementation of this plan.

The WGFD will be holding a series of meetings around the state to provide an overview of the revised SWAP and to receive public comment. Presentations will cover the purpose of the SWAP, changes since 2005, the relationship between various chapters, how information was collected, and the process for identifying and prioritizing Species of Greatest Conservation Need (SGCN) and developing SWAP priority areas.

### SWAP Public Meetings

| Date    | Location                           | Time |
|---------|------------------------------------|------|
| 9/27/10 | Green River – WGFD Regional Office | 7pm  |
| 9/28/10 | Jackson – WGFD Regional Office     | 7pm  |
| 9/29/10 | Casper – WGFD Regional Office      | 7pm  |
| 10/4/10 | Laramie – WGFD Regional Office     | 7pm  |

## 2010 Species of Greatest Conservation Need

In Wyoming's revised SWAP, 180 wildlife species were identified as SGCN. The SGCN designation is for species whose conservation status warrants increased management attention, funding, and consideration in conservation, land use, and development planning in Wyoming. SGCN in Wyoming include 56 birds, 46 mammals, 30 fish, 8 amphibians, 21 reptiles, 6 crustaceans, and 14 mollusks.

In the 2005 plan, 279 species received the SGCN designation. Changes in SGCN status in the revised SWAP included new research or survey information, recently discovered species in Wyoming that were

formerly undocumented, and taxonomic changes. Additionally, mollusks and crustaceans were grouped at the genus, family, or order level based on shared morphology, habitats, threats, and limited information. Basic life history information, population survey methods, and identification techniques for these mollusks and crustaceans is extremely limited, and addressing the conservation of these species at a lower taxonomic level is impractical until additional information is available. Please see Appendix B in the Introduction to the SWAP chapter on SGCN (pages IV-i-17 and IV-i-18).

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U.S. Fish and Wildlife Service

# 2010 Species of Greatest Conservation Need

In the revised SWAP, a prioritization system for SGCN was established to help focus conservation efforts within the WGFD, as well as with other partners including government agencies, conservation organizations, industry, and landowners. The system was also established to direct activities toward species where there is the greatest likelihood of preventing future listings under the Endangered Species Act and for which conservation actions would provide the greatest benefits for native species, natural habitats, and the state.

Six variables were approved by the Wyoming Game and Fish Commission to evaluate SGCN conservation priority. Variables were identified through a consultation process, which included representatives from the WGFD, U.S. Fish and Wildlife Service, U.S. Forest Service, Bureau of Land Management, Natural Resources Conservation Service, Wyoming Natural Diversity Database, and the Governor's Office.

## Six Variables to Evaluate SGCN Conservation Priority

1. WGFD Native Species Status (NSS) Rank;
2. Wyoming's contribution to the species' overall range-wide conservation;
3. Regulatory or monetary impacts if the species becomes listed under the Endangered Species Act;
4. Urgency of the need for conservation action;
5. Ability to implement effective conservation actions; and
6. The species ecological or management role including its role as a keystone, indicator, or umbrella species.<sup>1</sup>



<sup>1</sup> Indicator species are those species whose population status is a good indicator of the overall health of the habitat it occupies. A keystone species is a species that plays a significant role in shaping and defining the habitat in which it lives. Umbrella species are species selected for making conservation related decisions, typically because protecting these species indirectly protects many other species that make up the ecological community of its habitat.

A simple prioritization system was developed where each of the six variables was given a score and variable scores were totaled to derive an overall score for the species. Variable scores were "weighted" - received greater or fewer points - according to their perceived importance. The most points were given to the WGFD NSS Rank and Wyoming's contribution to the species' overall range-wide conservation. A more limited number of variables were used to determine the priority for species where there was little data to assess their conservation status.

SGCN were placed into one of three tiers based on their total score:

*Tier I – highest priority*

*Tier II – moderate priority*

*Tier III – lowest priority*

Of the 180 SGCN in the revised SWAP, this system resulted in 25 SGCN being identified as Tier I, 119 Tier II, and 36 Tier III.

More detailed information about the SGCN prioritization system and the ranking of various species can be found on pages IV-i-5 – IV-i-11 of the Introduction to the SWAP chapter on SGCN.

## Species of Greatest Conservation Need Priority Areas

Areas of the state important for the long-term conservation of terrestrial SGCN were identified using Marxan, a software tool for conservation planning. The decision to use Marxan for identifying SGCN priority areas was based on the need for a transparent, objective, and repeatable process that used the best available data on SGCN distributions and habitat condition. The basic steps for using Marxan involve defining planning units, selecting conservation features, setting targets for each feature, and running a cost analysis. The software identifies combinations of planning units that best meet designated conservation targets.

A statewide grid of 1 mi.<sup>2</sup> hexagons was used as the Marxan planning unit. Conservation features included Wyoming locations for terrestrial SGCN and 11 habitat types. The location of SGCN in Wyoming was based on distribution models developed by Wyoming Natural Diversity Database. The locations of the 11 habitats were derived from the Northwest ReGAP dataset for Wyoming. The overlap of SGCN distributions and habitat types for each hexagon planning unit was calculated.

Targets for 127 terrestrial SGCN were percentages of each species' modeled distribution. Targets varied from 50% to 15% with a mean of approximately 26%. The target for each SGCN was determined based upon its NSS rank and its range (endemic, limited, disjunct, widespread, or peripheral), with NSS rank contributing up to 35% toward the target and range contributing up to 15%. Most SGCN had targets between 20% and 30%.

# Species of Greatest Conservation Need Priority Areas (cont'd)

The Marxan software was instructed to avoid areas of high human disturbance. Geographic Information Systems (GIS) data layers used to identify human disturbance included cultivated and hay lands, oil and gas pipelines and wells, power lines, residential development, roads, surface mines, and wind turbines. Disturbance was calculated for each dataset at a 30-meter resolution and then combined to output a score from zero (low human disturbance) to 100 (high human disturbance). For Marxan analyses, the average disturbance level was calculated for each planning unit and then reclassified to a 4-point scale where 1 indicates low human disturbance and 4 indicates high human disturbance.

Final Marxan results identified 44 terrestrial priority areas in Wyoming (Figure 1). Individual areas range in size from 7 to approximately 4,550 square miles with a mean size of 665 square miles, and covered in total slightly less than 30% of the state (~29,225 square miles). Priority areas identified with Marxan should be considered a network that meets conservation targets, and can not necessarily be interpreted meaningfully as stand-alone areas. The priority area network has a complimentary value that results in the sum exceeding the value of the individual areas.



Before the next revision of the SWAP a vulnerability assessment is planned to further refine SGCN priority areas. This assessment will identify areas of potential habitat alteration due to predicted future energy development, rural subdivision, climate change, and invasive species. Additional information about the SGCN priority area identification process used in the revised SWAP is found on pages III-i-6 – III-i-8 in the Introduction to the SWAP chapter on Habitats.

In many cases, aquatic priority conservation areas had already been identified in the WGFD's Strategic Habitat Plan. Recent legislative and State Wildlife Grants funding has allowed new population and distribution surveys of native fish to further refine priority areas along the Platte and Green Rivers. Detailed survey information is still lacking for mollusks and crustaceans.

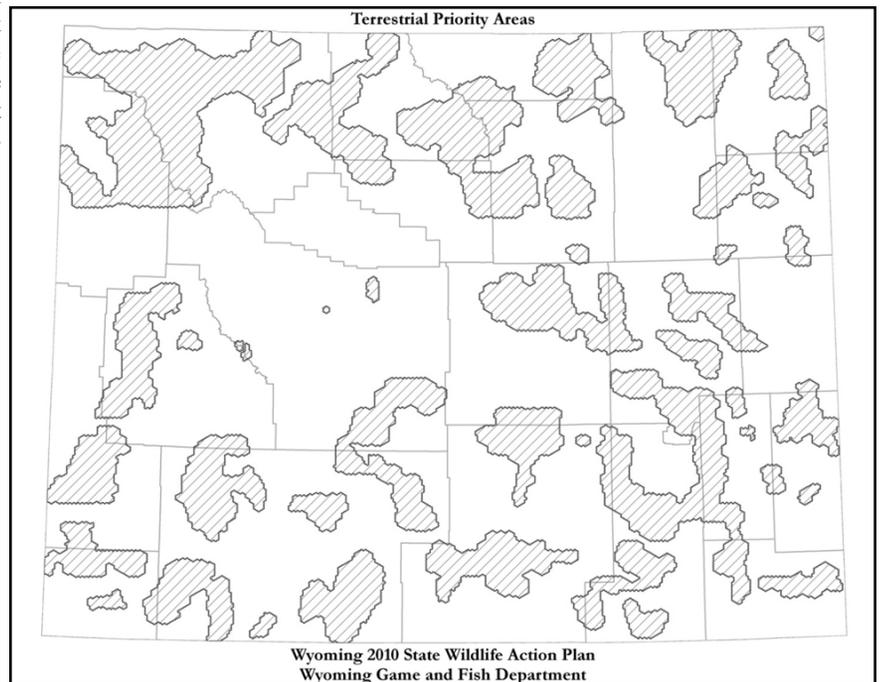


FIGURE 1. Terrestrial priority areas identified by Marxan.

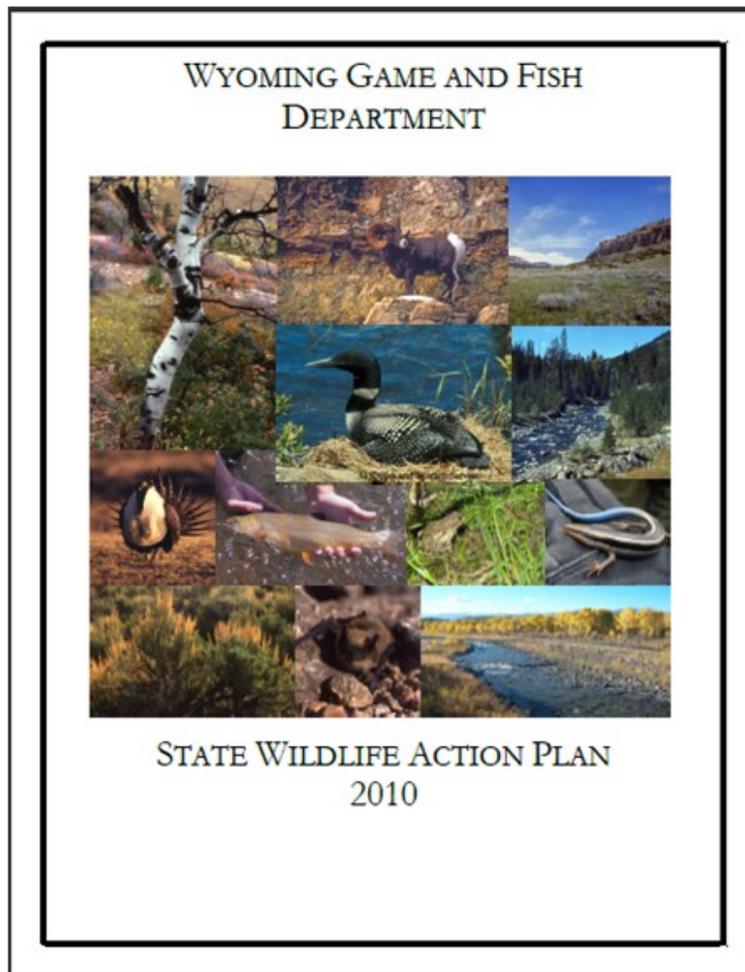
## Questions or Comments?

Questions or comments about the SWAP or this newsletter can be forwarded to:

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## **Revision Timeline for Wyoming's State Wildlife Action Plan**

Submit to Wyoming Game & Fish Commission for Review.....Sept 8, 2010

Public Review and Comment Period.....Sept 15—Oct 31, 2010

Submit to Wyoming Game & Fish Commission for Approval.....Nov 8, 2010

Deliver to U.S. Fish and Wildlife Service.....No later than Apr 1, 2011