

Game Management Plan

Accomplishments

July 2003 - June 2007

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Following are the objectives and strategies identified in the 2003-09 Game Management Plan. In total, there are 178 Objectives and 695 strategies in this plan. If significant actions have occurred, they will be listed after the strategy. Those where the strategy has been completed and those that are ongoing will be listed as such. This listing represents a report card of accomplishments from August 2003 through June 2007.

GENERAL GAME MANAGEMENT

Objective 1

Develop agency hunting season recommendations and management actions that ensure long-term sustainability of endemic hunted and non-hunted wildlife.

Strategies:

- a. Agency staff will maintain regular contact with peer scientists and wildlife managers and consider the best available scientific information when developing strategies and recommendations for hunting seasons and management actions.

Action: Staff attended and interacted with peers from other agencies and from other states at the: Western Technical Committee Meeting for the Wild Turkey; Western Association of Fish and Wildlife Agencies (WAFWA); WAFWA Deer and Elk Workshop; WAFWA Mule Deer Working Group; The Wildlife Society (TWS) at the national level; WAFWA Cougar Working Group; wild sheep and goat council meeting; Hells Canyon Initiative (HCI); Blue Mountains Elk Initiative; Annual North American Moose Conference and Workshop; Washington Wildlife Society Meeting; Intermountain West Joint Venture; as well as other associated meetings. Participated in the 8th Mountain Lion Workshop, Yellowstone Carnivore Institute, and chaired the Pacific Flyway Study Committee and Pacific Flyway Council.

- b. Before implementation, WDFW will provide adequate opportunity for public review of recommendations for regulations and activities that may have significant impacts on non-hunted wildlife and their habitats.

Action: Permit levels and season adjustments were reviewed with the Game Management Advisory Council, specific recommendations were discussed with interested tribes, and the recommendations were mailed to interested, in addition to the Fish and Wildlife Commission's April Meeting process and associated public comment period; Migratory Bird season recommendations were reviewed with the Waterfowl Advisory Group as well as being sent to the Wildlife Program's mailing list and going through the August Fish and Wildlife Commission meeting process; in response to Senate Bill 6118, several meetings were held with representatives of the five northeast County Commissions to craft recommendations for revised cougar hunting seasons in those counties that includes a season using hounds, this process continued past the reporting period.

- c. Significant impacts and the scientific basis for recommended actions may be "peer reviewed" by scientists outside WDFW when determined necessary by biologists and managers making the recommendations.

Action: Survey/study protocols were peer reviewed for a cougar DNA study, a cougar and black bear survey, and a cougar and black bear relocation study; protocols and study designs were also reviewed and coordinated with the US Fish and Wildlife Service, the

Canadian Fish and Wildlife Service, University of Washington, and WDFW's Research Division for a swan mortality study and a lead shot soil-sampling scheme; the study designs for the Blue Mountains and Yakima elk studies have previously been peer reviewed as well; WDFW's Deer and Elk Specialist (Dr. Scott McCorquodale) was selected as an Associate Editor for articles submitted for publication in the Journal of Wildlife Management.

Objective 2

Provide multiple opportunities for stakeholders to participate in development of three-year regulation packages, collection of biological information, and in planning efforts for game species.

Strategies:

- a. Maintain citizen advisory councils and use them throughout the process of developing plans and regulation packages.
Action: Conducted meetings for the Game Management Advisory Council, Upland Game Advisory Group, and the Waterfowl Advisory Group during the reporting period. In addition, a Hunter Access Task Group was established as an ad hoc group to assist WDFW in developing recommendations for revision and expansion of hunter access programs. Attended formal tribal-state cooperative game management meetings, formulated Penn Cove Hunter Conflict Resolution Group, cooperated with tribal interests and other stakeholders regarding Nooksack Elk Augmentation. Maintain and work with the Dungeness Elk Working Team to develop solutions to elk management issues with this herd. Group also has policy level representation including area tribes for strengthening support for options generated.
Action: Enhanced the use of the WDFW Web page to encourage public comment and ideas for regulations and priorities. The web page was used to solicit comment during development of fall big game permit and season adjustments and for migratory bird seasons.
- b. Conduct one public meeting in each WDFW region for statewide issues, two per WDFW region for more local issues, and provide other routine opportunities for the public to interact with WDFW staff regarding plans and three-year regulation packages.
Action: Ongoing. Staff routinely attends regular meetings of local sportsman's clubs (Inland Northwest Wildlife Council, Stevens County Fish and Wildlife Advisory Committee, Northeast Game Management Group (Chewelah Sportsmen), Pend Oreille County Sportsmen's Club, Richland Rod and Gun Club, Whitman County Sportsmen's Association, Asotin County Sportsmen, Vancouver Wildlife League, Yacolt Burn Sportsman's Club, Cowlitz Game and Anglers, Western Waterfowl Association, Washington State Bowhunters, etc...).
- c. Conduct a public opinion survey at least once every five years to monitor support for agency programs, planned activities, and regulations.
Action: Opinion surveys were conducted of Landowners and Hunters participating in WDFW hunter access programs; these surveys are part of a process to update agency hunter access programs that continued past the reporting period; surveyed turkey hunters about youth season and fall permit season regulations prior to recommending them to the Commission; assisted development of a nationwide duck hunter survey through the National Flyway Council.
- d. Publicize and maintain a mailing list of citizens interested in receiving copies of plans and regulations and notify those on the list as plans and season recommendations are developed.

Action: The Directors message in the 2004 fall hunting season pamphlet and the Game Division message in the 2004 publication of Game Trails asks that interested citizens submit their names to be placed on the list.

- e. Encourage public participation and comment during the Fish and Wildlife Commission meeting process.

Action: News releases including web posting and mailings were sent out prior to meetings.

- f. Develop new opportunities for citizens to help with collection of data and interaction with biological staff.

Action: The cougar DNA sampling project used hound hunters to pursue cougars and collect samples before public safety cougar removals. Biologists utilized volunteers to comprise most of the field force to conduct goose nest searches and banding operations in the lower Columbia. Volunteers collect significant portions of the annual deer productivity surveys (fawn to doe ratio) in Region 5. Additionally, volunteers collect data at deer hunting check stations in several Regions. The Williams Creek Project and Wynoochee Forage Evaluation Project both made extensive use of volunteers working with Agency biologists.

- g. Increase public awareness regarding wildlife issues.

Action: Developed the pamphlet Game Trails; attended six major sports shows with a display theme regarding cougar management; developed a living with wildlife safety-packet for handing out to citizens in neighborhoods where cougars are seen; developed news releases regarding a variety of issues from elk translocations to regulation changes. Annually, Region One staff work the WDFW booth at the Bighorn Show in Spokane. Attended seven major sports shows with the display on background license plates. Volunteers are a critical part of the Operation Dark Goose Project in the lower Columbia River (LCR). This project is designed to capture and mark geese that resemble the Dusky Canada goose, which is a sub species whose harvest is limited by quota by the Pacific Flyway. Volunteers assist with nest searches, brood surveys, and banding operations that focus on geese in the LCR. Birds are banded to prevent misidentification as the migrant dusky and to help clarify population estimates on winter populations. Over 100 volunteer days of effort per year goes into this project.

Objective 3

By 2008, improve level of public support for hunting regulations and management actions with special emphasis on cougar, black bear, and furbearers; management of non-native species; and youth and senior hunting opportunity.

Strategies:

- a. Educate the public regarding current regulations and the rationale for them.
- b. Conduct public outreach and determine the level of support for modifying regulations.
Action: Conducted three to four meetings each year with the Game Management Advisory Council. Met regularly with Stevens County Advisory Committee.
- c. Carefully consider public support for regulations and management actions prior to developing recommendations and implementing actions.
Action: Ongoing
- d. *Completed:* Extensive public scoping and involvement prior to implementing pilot spring bear damage season in western Washington.
Emphasize hunting opportunities for cougar, black bear, and furbearers in those instances that specifically address public safety, pet and livestock depredation, protection of threatened and endangered species, or property damage.

Action: Worked with the northeast Washington counties to support legislation (SB 6118) for cougar hunting with hounds; initiated discussions with the Fish and Wildlife Commission regarding a spring black bear hunting season in select areas receiving extensive timber damage and developed pilot seasons in two areas of western Washington.

- e. Develop a fact sheet and several news articles each year describing the values of hunting.
Action: The use of hounds for cougar hunting and control or management of the cougar population using hunting and hunters is part of the theme expressed during agency involvement in news articles.

Objective 4

To recommend changes to regulations associated with trophy hunting and hunting contests that are supported by the public.

Strategies:

- a. Measure the current level of public support for specific Department regulations regarding these issues.
- b. Provide education regarding current regulations and rationale and then conduct public outreach to determine regulation modifications that will receive support.
- c. Recommend regulation modifications to the Fish and Wildlife Commission.
Action: Ongoing.

Objective 5

Consider development and modification of regulations for use of electronic equipment and baiting of wildlife for purposes of hunting.

Strategies:

- a. Conduct public outreach and consider restricting electronic devices or baiting of wildlife.
Action: Much of this has previously been addressed within the hunting season package, with discussions continuing on the use of electronic turkey calls; so far only the National Wild Turkey Federation officials have been contacted and they remain neutral on the issue; surveyed waterfowl hunters in 2007 regarding electronic waterfowl decoys. Introduced a public discussion on baiting of deer in Northeast Washington. This change was not included in the 2006-08 three-year package.
- b. Regulate season length, timing, bag limits, and other restrictions as needed to address any increased harvest success from electronic devices that are not restricted.
Action: Ongoing
- c. Develop effective regulations regarding fair chase that are understandable and enforceable.
Action: Much of this was addressed in a previous hunting season package, although will continue.
- d. Consider exceptions to new equipment regulations to accommodate the needs of hunters with disabilities.
Action: The Commission adopted exceptions that allow the use of crossbows during archery seasons by qualified hunters with disabilities; requests have been received by WDFW for modification of muzzleloader restrictions.

Objective 6

Improve compliance for common violations and public opinion of hunters by 2008.

Strategies:

Action: Wildlife Program has strengthened its policy on wearing of uniforms for biologists and other staff; improved visibility will be phased in as field staff acquires uniform clothing.

- a. Publicize three news stories per year that emphasize the value and contributions of hunters or successful programs to improve regulation compliance.
- b. Publicize improvements in hunter compliance rather than focusing exclusively on arrests.
- c. Review and simplify, clarify, or eliminate regulations that are dubious, ambiguous, or confusing.

Action: The redundant Cheney B. Muzzleloader permit hunt was removed. Problems associated with second deer tags in District 2 were resolved. For 2007-08 GMU 558 (Marble) has been combined with GMU 560 (Lewis River). This eliminated a two-point or larger deer area with minimal effect on elk or other game species regulations. This simplified the regulations in this area.

- d. Re-invigorate and publicize the Advanced Hunter Education program to help address public support for additional hunter training and to improve public opinion of hunters.

Action: A group of AHE Master Hunters met several times and developed a set of recommendations for invigorating the program; as a result, new hunting opportunities that focus on sensitive landowner issues and problem resolution have been added each year, with more planned in the future. Provide incentives for hunters to complete additional training or refresher courses and consider mandatory refresher courses for wildlife law violations (at violator's expense).

- e. Support hunter education curriculum and program improvements and funding.
- f. Maintain or enhance the number of enforcement officers as funding and priorities allow.

Action: Ongoing

Objective 7

Determine hunter and landowner preferences for private land programs that address landowners' needs and increase lands available for hunter access by 25%.

Strategies:

- a. Continue to improve on publicizing current programs through the agency Web page, direct mail, the hunting pamphlet, and other hunter publications.

Action: Current programs were reviewed and updated; an agency web application (GoHunt) that describes the location and type of access program was developed. Since its inception, over 3 million maps have been generated using the GoHunt application. Attempted to maintain relationships with Hunting Access Cooperators through a difficult transition involving this mapping effort and some business related contracting changes.

- b. Identify the current level of hunter access to private land through a landowner survey and determine incentives that will be effective in encouraging landowners to provide greater levels of hunter access.

Action: Conducted two surveys of landowners to begin development of new programs to expand hunter access. The issues landowners were most concerned with were vandalism, fire suppression, road maintenance, loss of production time (usually associated with logging operations), enforcement, and liability.

- c. Host a symposium with experts from across the western states to gather ideas about what types of programs are effective in other states and to develop the key attributes necessary for a successful hunting access program.

Action: Completed

- d. Form a task group of stakeholders to develop an implementation plan, that includes recommendations for habitat and access requirements, addresses landowner needs, identifies a funding mechanism, includes draft legislation, and has strong public, hunter, and landowner support.

Action: Senate Bill 5234 passed out of the Senate but did not receive a House floor vote and therefore did not pass. The bill would have increased the cost of a hunting license by five dollars (\$5) and would have been dedicated to a hunter access program. A similar bill was introduced into 2 subsequent legislative sessions, each ending without a House vote and without passage.

Objective 8

Develop road management plans in southwest and northeast Washington and in the central Cascades.

Strategies:

- a. Because resources are limited, develop plans that focus on the Yakima, Colockum, Selkirk, Willapa Hills, and Mount Saint Helens areas that reduce active road densities to target levels, yet maintain well-distributed access for hunting. Other areas such as the Blue Mountains will also receive attention as staffing and funds are available.

Action: Ongoing as part of the Private Lands Access Program review. A road management plan for the Colockum elk herd is being drafted in 2007; proposed closure of portions of the Colockum and Quilamene Wildlife Areas are being reviewed by the public in 2007.

- b. Place emphasis on the expansion of private lands incentive programs in these geographic areas.

Action: Ongoing as part of the Private Lands Access Program review. Emphasize gated and barrier type closures, rather than voluntary systems. Ongoing projects funded by the Rocky Mountain Elk Foundation (RMEF).

- c. Incorporate access exceptions for hunters with disabilities where possible and consider the needs of senior hunters.

Action: Ongoing.

Objective 9

Develop a plan that identifies the current level of hunter acceptance, an understanding of road closures, and that resolves concerns, while addressing the resource needs in the Yakima area.

Strategies:

- a. Survey hunters that utilize the Yakima area to determine the current level of understanding and acceptance of road closures. Determine key areas of concern for hunters and develop a plan that addresses those concerns.

Action: This strategy was delayed pending completion of the private lands access program review. Funding for staff to complete a road management plan was made available in the spring of 2007.

- b. Develop at least three news articles that explain the rationale and demonstrate the value of road closures in the Yakima area.
Action: Ongoing, three articles regarding the need for access closures were published in the local paper.
- c. Publish a comprehensive article in the Game Trails publication.
Action: Articles were developed for Game Trails.
- d. Develop and provide fact sheets at the Oak Creek viewing area, Regional and District offices, and hunter check stations.
- e. Develop an electronic slide-show presentation and use annually during presentations to hunting organizations.

Objective 10

Manage hunter access opportunities on private industrial timberland in northeast and southwest Washington.

Strategies:

- a. Inventory current access levels and distribution including landowner surveys.
- b. Determine landowner concerns and ways to alleviate problems they experience.
Action: Surveys and in-person discussions show that the issues landowners were most concerned with are vandalism, fire suppression, road maintenance, loss of production time (usually associated with logging operations), enforcement, and liability. The Department will continue to work with landowners to develop a mutually acceptable means of addressing the issues where possible. Volunteer groups will play a key role in the implementation of acceptable plans.
- c. Educate hunters about landowner concerns and facilitate the development of partnerships to alleviate problems and open up access.
Action: Results of the landowner surveys were discussed at Game Management Advisory Committee and Hunter Access Task Group meetings as well as stakeholder meetings in specific areas of concern (e.g., St. Helens elk herd hunter access meeting in Longview).
- d. Coordinate with other private lands and hunter access strategies and programs.
Action: Access programs designed to address this objective will utilize some signs used in existing private lands access programs. Since these agreements will be so specific, the Department was unable to utilize existing contract language in many cases.
- e. Make southwest Washington the priority for expansion of WDFW access programs.
Action: Southwest Washington private industrial timberlands have been prioritized and negotiations with landowners (e.g., Weyerhaeuser and Longview Fibre) have resulted in increased access for elk hunting.
Action: Complete implementation of these strategies is contingent on additional funding.

Objective 11

Improve public understanding and acceptance of treaty hunting rights.

Strategies:

- a. Develop an outreach package that can be sent to citizens concerned about tribal hunting.
Action: Articles have been developed for the Game Trails publications; additional information will continue to be developed.

- b. Use Wild About Washington to highlight tribal rights and tribal management activities.
- c. Develop cooperative management programs (see below) that can demonstrate state and tribal management programs.
Action: Cooperative elk management and recovery projects have been initiated on the Olympic peninsula, Green River, and Nooksack River drainages. Collaborated with Muckleshoot Tribe on research and management. WDFW, the Point Elliot Treaty Tribes, and the Northwest Indian Fisheries Commission have begun a cooperative venture to collect scientific data under a rigorous design to estimate the size and structure of the Nooksack elk herd and to develop/identify a reliable approach for monitoring this population through time. Developed a Cooperative Black-tailed Deer Fawn Mortality project with the Makah Tribe and staffed, with WDFW sponsored volunteers, the capture portion of the project.
- d. Use links from the WDFW website to highlight tribal research, regulation packages, and harvest reporting.
- e. Include a segment on tribal hunting rights and tribal management activities as part of the Hunter Education Program.
- f. Include a description about tribal hunting rights and wildlife management programs in the hunting pamphlet.

Objective 12

By 2007, complete at least five additional coordinated tribal/state harvest management plans for deer, elk, and/or cougar populations subject to both tribal and non-tribal hunting.

Strategies:

- a. Use existing herd plans to develop coordinated harvest management plans for elk herds or other game species.
- b. Based on tribal interest and availability, pick a key population in each treaty area as a starting place to build working arrangements and processes for developing coordinated harvest management plans.
Action: In 2003, District 3 biologists negotiated a permit-controlled hunting system with the Confederated Tribe of the Umatilla Indian Reservation (CTUIR) which increased public acceptance of branch-antlered bull elk hunting in the Dayton area. In 2007, CTUIR will go back to a non-permit system. A one-year agreement for the 2007 hunting season is being finalized with the Point Elliot Treaty Area tribes for hunting elk in the Nooksack River drainage. A plan to work on regional agreements has been proposed to treaty tribes on the Olympic Peninsula, Medicine Creek (south Puget Sound), and Point Elliot (north Puget Sound) treaty areas.
- c. Build upon existing working agreements to move the process forward as quickly as possible.
- d. The first plans to develop will be for key wildlife populations, where management and conservation issues are imminent.

Objective 13

Maintain public support for managing predator populations, while sustaining predator populations in balance with prey species and considering public safety and social tolerance.

Strategies:

- a. Focus hunting and harvest efforts for predators on those areas and situations that address human safety, protection of pets and livestock, and recovery of listed species. Specific management proposals are included in the species sections of this plan.
Action: Implemented pilot cougar hound hunt in NE Washington to address human safety, livestock depredation, and improved population management of cougar.
- b. Incorporate focused predator harvest activities using licensed hunters while ensuring sustainable predator populations.
Action: Implement pilot spring black bear damage hunts in western Washington to allow a mechanism for licensed hunters to help address timber damage as well as contract hunters through WFPA.
- c. Make any changes to current predator hunting on a gradual basis in order to monitor success prior to expanding hunting opportunities and to increase public support.
Action: Pilot spring bear damage hunt implemented after 2 years of public scoping, input and consideration. Implemented a spring bear hunt in Northeast Washington in 2006. Spring bear permits in the Blue Mountains were increased by approximately 50% for the 2006 season, hunter satisfaction has yet to be determined.
All of these strategies are ongoing and have been or will be described as parts of other strategies listed in this report card.

Objective 14

Determine the level of support and understanding from the public for spring black bear hunting in those commercial timber areas or other private properties that receive damage and the feasibility of a spring damage hunt.

Strategies:

- a. Conduct public involvement and education prior to recommending spring black bear hunting designed to reduce commercial timber damage.
- b. Develop a fact sheet describing the feasibility of trap and relocation efforts prior to implementing spring seasons.
- c. Implement localized spring hunts on a limited basis to determine effectiveness prior to recommending expansion.
- d. Retain current black bear timber damage management program using contractors.
Action: These strategies are similar to several identified in the black bear section of this report card and our progress on these activities will be described under that section.

Objective 15

Maintain sustainable game species populations while reducing hunter dissatisfaction as measured by a “poor” rating to less than a 10% for all game species hunting by 2008.

Strategies:

- a. Consistent with population goals, conservation principles, and social constraints, develop and maintain a variety of deer and elk hunting season opportunities within each administrative district of WDFW:
 1. Provide sufficient hunting opportunities for archers, muzzleloaders, and modern firearm hunters to approach average statewide participation rates and seek to generally equalize success rates by 2008.

Action: Initiated with the season package with some adjustment to permit levels; we plan to review the results for further modification in the 2006-08 season recommendations.

2. Develop at least two hunting opportunities that emphasize low hunter densities and higher success rates (than current general seasons) through permit only restrictions.

Action: Special permit-only elk hunting is provided to all user groups in GMUs 556 and 524. Additionally, permit-only elk hunting is provided to muzzleloaders in 554. Furthermore, permit-only muzzleloader elk seasons are provided in GMUs that do not have general muzzleloader seasons. Permit-only "late buck" permits are provided in GMUs 574, 578, and 588. Developed permit-only "late buck" hunt in GMU 111, archery opportunities in 134 and 136. Implemented antlerless second deer permits throughout Region 1. Provided a two-month archery season in GMU 162 and 163. Developed early October any bull elk hunts for modern firearm in GMUs 615 and 618.

3. Provide general season antlerless harvest opportunities approximately equal to recruitment in Population Management Units (PMUs) (these are combinations of GMUs) meeting population objectives. Provide harvest opportunities that exceed recruitment in populations that are above objectives.

Action: Ongoing

- a) Provide general antlerless opportunity to users in the following order of priority:

- 1) Hunters with disabilities
- 2) Youth hunters
- 3) Senior hunters

Action: Initiated the season package; potential for expansion is ongoing with the 2006-08 season package. A new antlerless elk hunt on the Mudflow for Hunters with disabilities. Additional antlerless elk hunting opportunity for hunters with disabilities was offered for the Mudflow hunts in 2007. Provided opportunity for disabled and youth hunters to hunt deer during the elk season in Northeast Washington.

- b) Provide antlerless opportunity to archery or muzzleloader hunters if needed to equalize success rates with modern firearm hunters, or equally between weapon types if success rates nearly equal.

Action: Ongoing. Youth, seniors, and hunters with disabilities were given the opportunity to hunt antlerless during the modern firearm late buck season in Northeast Washington, and during the general modern firearm white-tailed deer season in Southeast Washington. Added one day to the western Washington modern firearm general elk season

4. Support the intent of the Advanced Hunter Education program by providing Master Hunter graduates primary consideration in hunting efforts designed to resolve private land and sensitive damage issues.

Action: Opportunities have expanded each year and are ongoing. New opportunities were created in the Hanford area and on the Julia Butler Hanson Reserve.

- b. Within population goals, provide consistent general-season opportunity rather than permit restrictions whenever possible. Use other techniques to manage success rates before considering permit only restrictions.

Action: Changed several permit only units to a general fall season turkey hunting opportunity in line with population management goals. For 2006-08 the general modern firearm season in the Grayback GMU was shortened, but retained. Also, the GMU was

renamed to 388 (from 588) so that it could readily be included in the 3-point antler restriction GMUs. Additionally, the late muzzleloader deer season in GMU 578 was moved to a later calendar date in an attempt to improve buck survival in this GMU. Changes in each of these GMUs facilitated more conservative deer management while retaining general seasons. Turkey hunting opportunities were increased throughout Region 1 to include more general fall season opportunity while maintaining season length. Implemented a new late fall permit season in Northeast Washington for the 2006 season.

- c. While striving to achieve population goals, maintain season length as a second priority to maintaining general seasons. Use other techniques to manage success rates, such as timing, antler points, restrictions, etc.

Action: Ongoing

- d. Identify high priority (top 10%) waterfowl and pheasant hunting areas, increase hunter access, and provide a variety of hunting opportunities in these areas using access easements, cooperative programs, or acquisition.

Action: The Partnerships For Pheasants pilot program was initiated which will provide over 1,000 acres of improved pheasant habitat and over 9,000 acres of hunter access; all of these leased lands will be located within the “Pheasant Focus Area” that was defined in southeast Washington; expansion of this program is contingent on completion and funding of the private land hunter access initiative.

Action: Develop limited entry areas, marked sites, walk-in sites, or other restrictions to reduce crowding.

Action: Some of the Partnerships For Pheasants (PFP) sites, while still feel free to hunt or register to hunt, will have limited parking spots available in an effort to improve quality hunting opportunities; a new limited entry waterfowl hunting opportunity was created on the Columbia Basin Wildlife Area; the limitations are created through designated parking sites, there are discussions and plans to develop additional sites in the future. At the Shillapoo-Vancouver Wildlife Area, a state duck stamp project included quantification of and improvements to waterfowl hunting blinds. One such blind was made “ADA” accessible. In eastern Washington, a corn stubble retention project funded by state duck stamp funds provided hunting access in the Moses Lake and Quincy areas; a quality hunt area was established near the Winchester Wasteway Reserve. On Fir Island, a quality hunt program for snow geese was established in conjunction with cover crop developments, provided by state duck stamp funds. In 2007-08, a Quality Hunting Area program will be implemented where specific areas will be managed for lower hunter density and higher hunter harvest.

- 1. Focus habitat programs and population enhancement activities in these high priority areas.

Action: As stated above, the PFP program will provide over 1000 acres of improved pheasant habitat in the Pheasant Focus Area. Habitat, access, and acquisition projects are ongoing at the Shillapoo-Vancouver Wildlife Area and the Cowlitz Wildlife Area, Skagit, and Columbia Basin areas.

- e. Implement multiple public involvement strategies leading to Fish and Wildlife Commission adoption of three-year regulation packages.

Action: This is a key part of the 2004 Game Workshop for implementation of the 2006-08 season-package. A variety of techniques were implemented to involve the public during the establishment of the 2003-05 three-year season package. These methods included: Press releases, newspaper contacts and subsequent articles, open-house style meetings, presentation style public meetings, and tallying of correspondence occurring via e-mail, telephone, or letter, etc. We intend to use these methods again during the 2006-08 season setting process.

- f. Following implementation of strategies and allowing time for results, monitor level of dissatisfaction through opinion survey in 2007.

Action: Increase moose hunting opportunity throughout most Region 1 moose GMUs.

Objective 16

Determine public support and desires for WDFW assistance in dealing with wildlife nuisance and damage.

Strategies:

- a. Conduct a public opinion survey to determine satisfaction levels and desires for addressing nuisance and damage.
- b. Develop regional focus groups to help resolve local damage and nuisance problems.
Action: This was a key component of a pilot program being submitted for funding to the legislature. A group has been formed in Kittitas County and others are being planned.
- c. Provide information to the public on how they can resolve nuisance problems themselves or by hiring contractors.
Action: A new comprehensive publication has recently been completed and is being converted to Web format for dissemination. In addition, a turkey nuisance/damage response matrix has been developed and is included in the Wild Turkey Management Plan that is available via hard copy or the web. Customer service and wildlife program staff handled hundreds of telephone calls and walk-in traffic at the regional offices. Most of these individuals solve their own problems or work with a contractor.
- d. Develop alternate strategies to mitigate or prevent damage from taking place.
Action: This is the focus of several publications (e.g., Wild turkey Management Plan).
- e. Form a task group of stakeholders to develop an implementation plan, that includes recommendations for deer and elk damage resolution, dangerous wildlife concerns, nuisance wildlife problems, identifies funding mechanisms as needed, develops draft legislation, and has strong public, hunter, and landowner support.

Objective 17

Foster greater landowner understanding of available options and develop new strategies for resolving crop damage. Respond to crop damage complaints quickly and initiate action to resolve damage.

Strategies:

- a. Develop a brochure explaining available tools and priorities for resolving crop damage.
- b. Provide list of options to landowner for handling damage and allow flexibility to the landowner.
- c. Use harassment and other non-lethal methods to address damage in deer and elk populations that are below management goals.
Action: This is ongoing through the enforcement program, unfortunately recent funding cuts have resulted in limited herding and hazing by temporary staff hired to conduct that activity. Elk herding and hazing programs (ground and aerial) continue in the Blue Mountains and in the Kittitas Valley. The Blue Mountains Elk Fence is undergoing major renovation and repair in the Spring.
- d. Continue to prioritize hunting as the most efficient means of resolving damage problems in those deer and elk populations that are above management goals and focus efforts on

the animals causing the problem rather than general herd reductions. The alternatives for addressing damage problems:

1. Provide landowner's name to hunters or landowner selects hunters during general season hunt.
 2. Provide landowner's name to hunters or landowner selects hunters during permit only hunt.
Action: Enforcement and Wildlife Programs have implemented a successful antlerless elk access program on private lands (e.g., in the Couse Unit, the Blackrock area in the Rattlesnake Hills Unit, and in the Mountain View Unit).
 3. Agency selects hunters for "hot spot" hunts.
 4. Allow the landowner (or immediate family member) to kill and retain one or more deer or elk through issuance of a "landowner preference" permit.
 5. Allow the landowner to select one or more hunters to kill and retain one deer or elk through issuance of a "landowner damage access" permit.
 6. Issue the landowner a "kill" permit to take one or more deer or elk, with the state retaining the carcass. Provide the meat to programs like hunter's for hunger, other charitable organizations, or tribes to meet ceremonial and subsistence needs.
Action: Used this technique in the Dungeness area to provide elk meat for the Jamestown's elders program, helping alleviate damage and provide a time window for resolving other issues around management of the herd
 7. Pay the landowner for the crop damage.
Action: The Landowner Hunting Permit Program and Landowner Damage Prevention Permits have been developed in part to help landowners address damage issues while using publicly drawn and landowner chosen hunters. Increased the ceiling on the number of deer landowner preference permits in Region 1 and more specifically white-tailed deer landowner preference permits in Northeast Washington. Increased the number of antlerless elk and deer permits in damage prone areas (including second deer tags).
- e. Conduct annual survey of landowners filing complaints to determine satisfaction with WDFW actions for resolving their problem.

ELK

Objective 18

Maintain elk populations that are consistent with Tables 1 and 2.

Strategies:

- a. Conduct aerial surveys to estimate populations, estimate indices, or to estimate composition ratios of bulls, cows, and calves. Manage for cow elk sub-populations that are consistent with the desired rate of increase or rate of decline that will allow the population objective to be met for that elk herd (Table 2).
Action: Surveys are ongoing and data are being collected for every major elk herd in the state. A new initiative will begin during winter 2005-2006 to evaluate monitoring approaches for the small Nooksack elk herd and to generate estimates of the size and composition of this herd. Nooksack work began in fall of 2005 and continued on into winter of 2006. Model development has begun for a sightability estimator as well as an individual mark-resight model and a batch mark resight model (Lincoln-Petersen). The elk population estimation work for the Nooksack elk herd has continued. Enough data was collected in the winter of 2007 to complete the sightability model construction.

Estimates will be developed using the new model and the efficacy of the new model will be evaluated. The individual mark-resight model and a batch mark-resight model will also be evaluated using the same data. All models will be compared and contrasted. Region 1 has switched to a Robinson 44 helicopter for elk surveys. District 3 biologists are determining which sightability model is most appropriate for this aircraft.

- b. Manage for a post-hunt bull:cow ratio range of 12 to 20 bulls:100 cows (Peek et al. 2002, Biederbeck et al. 2001, Noyes et al. 1996, Squibb et al. 1991, Squibb 1985, Houston 1982, Prothero et al. 1979, Flook 1970,).

Action: Ongoing. Bull elk hunting opportunities are established in a manner consistent with this goal. Post-season surveys are routinely being conducted in both eastern and western Washington for the Yakima, Colockum, Hanford, Mount St. Helens, and Blue Mountains elk herds. Post-hunt bull cow ratios are being achieved for the Yakima, Hanford, and portions of the Blue Mountains herds. Achieving and maintaining bull-cow ratio objectives in the Colockum herd continues to be problematic.

- c. Manage for pre-hunt bull cow ratio range of 15 to 35 bulls:100 cows (Peek et al. 2002, Biederbeck et al. 2001, Noyes et al. 1996, Squibb et al. 1991, Squibb 1985, Houston 1982, Prothero et al. 1979, Flook 1970,).

Action: Ongoing. Bull elk hunting opportunities are established in a manner consistent with this goal. Pre-hunt surveys are routinely being conducted for western Washington elk herds, but obtaining meaningful sample sizes for some areas continues to be challenging. Objectives are being met in many areas based on current survey data.

- d. When bull mortality is measured for a population, manage for a total bull mortality rate of less than or equal to 50% averaged over three years.

Action: Currently, bull mortality is being estimated directly from the fate of radio-collared individuals in the Blue Mountains and Yakima herds, and mortality rate objectives are being met. Bull mortality is being measured for elk in the Williams Creek unit. For the 2005 and 2006 hunting season this objective is not being met but another year is required for a three year average.

- e. Manage for a post-hunt mature bull (at least six antler points on one side) percentage of 2% to 10% of the bull sub-population (Table 2).

Action: Bull elk hunting opportunities are established in a manner consistent with this goal, however evaluation of these criteria is difficult to ascertain with current survey structure.

- f. Manage for herd composition and population goals at the Population Management Unit (PMU) level.

Action: The strategy is generally being implemented.

- g. Manage for minimal disturbance and selective harvest of mature bulls during the peak breeding period of September 15-30.

Action: In 2003, the Fish and Wildlife Commission changed the early, archery general season for elk to September 8 to 21. Other exceptions that allow overlap with this time period include hunts emphasizing low hunter density and mature bull harvest, damage related hunts, or in units with low elk density objectives.

Action: All of these strategies are ongoing with documentation provided in annual status and trend reports.

Objective 19

Explore the possibility that the Colockum elk herd may be above carrying capacity, which may be contributing to lower recruitment.

Strategies:

- a. Monitor annual recruitment.
Action: Ongoing through annual surveys as reported in the status and trend report.
- b. Assess the strength of correlations between antlerless elk harvest and juvenile survival for years 2003 and 2004.
Action: Analysis of these data is completed. No definitive trends were identified. Calf ratios in late winter seem to be negatively correlated with general season spike bull harvest in the coming fall, which is counterintuitive. In most cases, the time series for these two metrics should have similar slopes. Annual surveys are being conducted. A more definitive study plan is needed before we can seek additional funding.
- c. Monitor body condition of elk using ultrasonography or carcass fat indices to detect any correlations between elk population density and changes in individual elk body condition for years 2002 through 2004.
Action: Initiated in the 2003 hunting season and being carried forward in 2004. Data were collected annually from fall 2002 through fall 2006. Data thus far indicate variable fall body condition, but do not indicate systematic nutritional stress in Colockum elk during fall. Analysis of body condition related to elk density requires longer-term data over a range of elk densities, so additional data collection and analysis is pending depending on priorities and funding. Body condition work has continued, mostly through measuring organ fat indices from hunter harvested elk. There are still no indications of nutritional stress across all sample animals to date.
- d. Monitor forage quantity and quality annually to detect any habitat changes in response to changes in elk population density.
Action: Repeated photo plots have been implemented since summer-fall 2003 to index forage quantity. Continued with photo plots in summer of 2005 and 2006. Will repeat again in 2007.
- e. If necessary, starting in the fall of 2005 incrementally increase the antlerless portion of the harvest each year for three years or until a new population objective is met and then maintain the new population objective.

Objective 20

Develop a report that assesses if the current PMU structure system is the most relevant grouping for elk populations and sub-populations by 2005.

Strategies:

- a. Determine the status of the current PMU system through a review of the current PMU data and a mapping and GIS inventory of the current PMU structure.
Action: Discussions among staff have begun. Regional meetings with staff to address these issues will take place in the summer of 2006. Half of the Regional meetings were conducted. The remainder will be conducted in 2007. Report writing will continue through the end of 2007.
- b. If necessary, radio-collar elk within a PMU and determine annual movements, migrations, and seasonal use of available habitat types.
Action: Studies initiated in the Blue Mountains and Yakima elk herds may help shed light on modification of PMUs in these areas in the future. These studies are continuing and conclusions are pending. Fieldwork for these two studies has been completed.
- c. Determine annual and seasonal use within and outside the designated PMU. Compare area use between hunting season, winter, the calving period, summer, and transitional

periods. As data becomes available, consider the possible genetic influences on PMU delineation.

Action: Data being generated in the Yakima and Blue Mountains elk studies are most relevant, but these efforts are not yet at the analysis stage. Genetic implications of PMU boundaries and herd management require Science Division analysis. DNA from Washington elk herds continues to be collected to support this type of analysis.

- d. Redefine PMUs where necessary.

Objective 21

Evaluate summer and fall aerial surveys and evaluate and refine the use of winter helicopter surveys to estimate population size, population indices and population composition of Washington elk by 2005. Continue efforts to standardize and improve survey protocols to provide reliable data on the size and structure of Washington elk herds.

Strategies:

- a. Assess current protocols for winter helicopter surveys of elk and refine where necessary. Identify populations that are most effectively monitored with winter helicopter surveys. Develop herd-specific models where appropriate.
Action: Work will be implemented during winter 2005-2006 to explore development of an effective winter helicopter-based survey approach for assessing the Nooksack elk herd in western Washington. The Nooksack work will include exploring the development of a new sightability model specific to the Nooksack herd. Nooksack work is continuing on schedule for 2006. Meetings with Regional staff to review and assess survey protocols for elk will take place summer of 2006. Survey protocol review meetings are continuing through 2007. The elk population estimation work for the Nooksack elk herd has continued. Enough data was collected in the winter of 2007 to complete the sightability model construction. Estimates will be developed using the new model and the efficacy of the new model will be evaluated. The individual mark-resight model and a batch mark-resight model will also be evaluated using the same data. All models will be compared and contrasted.
- b. Refine current data collection protocols and explore the development of new approaches to monitor elk populations and the effects of management strategies on elk populations (Bender and Spencer 1999).
Action: Project planning has begun with cooperators on Nooksack and South Rainier herds. Sampling design has been refined and improved for Colockum. Half of the Regional meetings were conducted. The remainder will be conducted in 2007. Report writing will continue through the end of 2007.
- c. Expand efforts to monitor elk populations with summer and fall surveys where appropriate.
- d. If necessary, conduct sightability experiments to assess bias and precision associated with summer/fall helicopter surveys for elk.
Action: This work is pending due to funding constraints.
- e. If necessary, construct new sightability bias models for elk on summer and fall range in Washington.
- f. Validate sightability models used in Washington.
Action: The sightability modeling experiments planned for the Nooksack elk herd beginning in winter 2005-2006 include a strategy to evaluate performance of sightability modeling (bias and precision) for this herd. This effort is ongoing and on schedule. Will pick up again in fall of 2006 and winter of 2007. The elk population estimation work for

the Nooksack elk herd has continued. Enough data was collected in the winter of 2007 to complete the sightability model construction. Estimates will be developed using the new model and the efficacy of the new model will be evaluated. The individual mark-resight model and a batch mark-resight model will also be evaluated using the same data. All models will be compared and contrasted.

Objective 22

Improve the reliability of population estimates derived from the sex-age-kill model.

Strategies:

- a. Assess the population modeling approaches currently being used by WDFW and evaluate the need for new models and/or applications of population modeling.
Action: Ongoing.
- b. Assess the input parameters used in sex-age-kill modeling. Include assessment as part of the survey protocol review.
Action: This work is pending.

Objective 23

Maintain a sustainable annual elk harvest that is consistent with Tables 1 and 2.

Strategies:

- a. Maximize season length where possible while maintaining or approaching elk population objectives.
Action: Ongoing. This remains our strategy, but also requires balancing out hunter opportunity for various weapon groups.
- b. In those eastern Washington GMUs that currently have spike-only hunting seasons, retain spike-only seasons and adjust branch antlered bull permit levels to achieve bull ratio objectives. Retain any bull and any elk seasons in northeastern Washington as long as population objectives are being met or have a reasonable likelihood of being met.
Action: Ongoing. Strategy is being implemented.
- c. Retain 3-point restriction in western Washington as long as population objectives are being met or have a reasonable likelihood of being met over time.
Action: Ongoing. Strategy continues to be implemented.
- d. If necessary, develop cooperative road access restrictions or limited permit only units to achieve bull ratio objectives in western Washington.
Action: Limited permit hunts are being used to achieve objectives. Road access restrictions require cooperators, and WDFW is taking advantage of these opportunities as they arise when they make sense relative to harvest objectives.
- e. Design and implement harvest strategies based on the best available information collected for those specific elk populations and sub-populations.
Action: Strategy is being implemented.
- f. Unless extreme circumstances warrant, allow at least three years to determine effectiveness of regulation changes designed to achieve population objectives.
Action: All of these strategies are ongoing with documentation provided in annual status and trend reports.

Objective 24:

Maintain overall stability of elk hunting season regulations as provided during the last three years if possible, while still targeting the objectives in Tables 1 and 2.

Strategies:

- a. When feasible under budget and staffing restrictions, document recruitment and mortality rates for elk populations under a wide variety of conditions such as weather, human access, range condition, supplemental feeding, and herd densities.
Action: Datasets are being generated for Yakima and Blue Mountains elk herds using radio-collared elk. The Blue Mountain fieldwork portion has been completed and data are currently being analyzed. Data are still being collected for the Yakima population. Data collection has begun for the elk in the Williams Creek Unit. Additional bull elk were radio-marked for monitoring this year.
- b. Adjust hunting season regulations to achieve the desired population characteristics.
Action: Ongoing. Branch-antlered bull allocation formula in the Blue Mountains continues to be refined based on population changes, habitat changes, and attempts to improve opportunity. Discussions with Turnbull National Wildlife Refuge have resulted in an opportunity to initiate a permit-only elk hunt to address resource damage concerns (aspen overbrowsing) and provide limited recreational opportunity.
- c. Monitor elk population responses to various harvest strategies.
Action: Ongoing.
- d. Develop population models that simulate various harvest strategies before implementation.
Action: A model was developed and refined and is being used for the Hanford elk herd. Existing models are being used for other selected elk herds.
- e. Validate results of population modeling efforts using abundance, composition, mortality, recruitment, and harvest data collected annually.
Action: Ongoing. This is a long term strategy; data are being collected annually to facilitate this type of analysis.
- f. Implement an adaptive harvest strategy based on the past season harvest, composition counts, and/or population estimates or population indices available for each population or sub-population.
Action: Adaptive harvest management is occurring informally.

Action: All of these strategies are ongoing with documentation provided in annual status and trend reports.

Objective 25

Increase opportunities for viewing and photographing elk when consistent with the health and viability of elk populations.

Strategies:

- a. Develop one new elk-viewing site by 2008.
Action: Implementation underway in Nooksack.
- b. Improve one existing elk viewing site by 2008.
Action: Region 1 biologists applied for funding to acquire various parcels that would lend themselves to watchable wildlife opportunities including elk.
- c. Develop an Internet site that promotes elk viewing by 2006.
Action: Elk-Cam at Oak Creek funded by RMEF. Implementation began summer of 2004. Elk Cam still not complete as of summer of 2007. Issues pertaining to real estate and contract agreements have delayed completion.

Objective 26

Provide more than one type of elk hunting opportunity within an administrative region, allowing elk hunters to select a GMU or group of GMUs that best fits their preferred style of hunting.

Strategies:

- a. Identify elk population management units that currently attract or could attract higher hunter numbers by 2005. Less focus on hunter success would be placed on these GMUs. Hunter opportunity (maximum days) would be the priority in these units.
- b. Identify elk population management units by 2005 that can be managed for, or are currently being managed for, higher levels of hunter success without focusing on mature bull harvest. Hunter success rates would be the priority in these units.
Action: Ongoing. Will be part of discussion for next three-year regulation package. Added one day of general season hunting for western Washington during the modern firearm season for 2006-2008 package.
- c. Identify population management units by 2005 that can be managed for, or are currently being managed for, lower success rates but with a better chance to harvest older age class bulls. Opportunity for mature bull harvest would be the emphasis in these units.
Action: Ongoing. Will be part of discussion for next three-year regulation package.
- d. Determine by 2008 if a variety of elk hunting opportunities can be provided within each of the administrative regions that have elk hunting.
Action: Process has begun for all of the above through the season setting process using an equitability concept model. Some of these strategies may no longer be desirable.

Objective 27

Improve the accuracy and precision of harvest data to monitor elk populations and the effects of various management strategies.

Strategies:

- a. Continue to implement and improve the mandatory harvest reporting system.
Action: Ongoing. A new late-reporting administrative fee has been approved implemented to encourage better compliance with mandatory reporting and on-time reporting. Accuracy bias and compliance bias will continue to be investigated.
- b. Explore the possibility of expanding efforts to collect age-at-harvest data from elk teeth collected from successful hunters.
Action: Currently limited by funding constraints. Teeth collections have been

implemented in conjunction with other types of data collection for Yakima, Colockum, and Blue Mountains elk herds, and to a limited degree for the St. Helens elk herd.

- c. Explore the possibility of collecting data on elk body condition from harvested elk at check stations or using other sampling strategies.

Action: Strategy was implemented for the Colockum and Yakima elk herds, and to a limited degree on the Mount St. Helens Wildlife Area. To date, limited inference has been drawn from these data.

Objective 28

Increase antlerless harvest opportunities in elk populations that are at or above population goals.

Strategies:

- a. Monitor annual recruitment and population response to increased or decreased harvest.

Action: This strategy is ongoing with documentation provided in annual status and trend reports.

- b. In stable populations meeting population objective, develop harvest strategies to approach but not exceed recruitment of new animals into the population minus estimated annual, non-harvest mortality.

Action: Ongoing. Implemented in GMUs 117, 149, 172, 175, 178, and 181. Elk hunting in District 2 went from any bull to any elk.

- c. In populations above population goals, incrementally increase antlerless hunting opportunity and antlerless harvest each year until the population stabilizes within the preferred population range.

Action: Ongoing.

Objective 29

Identify areas of elk damage and minimize the number of damage incidents if possible.

Strategies:

- a. Provide information and advice to landowners regarding techniques to prevent elk damage. Reduce elk damage using non-lethal means in elk herds below population objective.

Action: Enforcement program has implemented hazing of elk when funding is available; the main efforts have been in the Yakima and Blue Mountains elk herds.

- b. Increase antlerless harvest in specific damage areas that target elk causing damage. Use site-specific lethal means in elk herds at or above population objective. Identify and map areas that will not be managed for elk and provide liberal harvest opportunities in those areas.

Action: This strategy is ongoing.

- c. Increase any elk harvest in certain situations where localized bull herds are causing depredation problems.

Action: This strategy is ongoing.

- d. Address site-specific damage situations by utilizing “hot spot” hunts, landowner preference tags, or issuing kill permits.

Action: This strategy is ongoing.

- e. Consider damage-related elk harvest data in management and harvest recommendations.

Action: This strategy is ongoing.

- f. Investigate the impacts of vehicle collisions on elk populations and explore options to mitigate some of those impacts.

Action: A cooperative data analysis project was undertaken between WDFW and Washington Dept. of Transportation (WSDOT) looking at ungulate-vehicle collisions. The initial analysis has been completed and a draft reported has been developed. WDFW will continue to work with WSDOT to finalize this report and build on the recommendations developed.

Objective 30

Maintain, enhance, and acquire habitat for Rocky Mountain and Roosevelt elk.

Strategies:

- a. Identify and prioritize important elk habitat to target for acquisition or conservation easements.

Action: Region 1 biologists have applied for funding to acquire various parcels, which include elk habitat.

- b. Improve habitat condition where possible, by implementing habitat enhancements and coordinating with land management agencies and private landowners to improve elk habitat quality where those opportunities exist.

Action: This activity continues in conjunction with the Rocky Mountain Elk Foundation.

- c. Establish cooperative cost share projects with U. S. Forest Service, Washington Department of Natural Resources, U. S. Fish and Wildlife Service, Tribal Governments, Rocky Mountain Elk Foundation, Safari Club International and other entities to improve elk habitat.

Action: Ongoing.

- d. Manage for elk herd distribution within tolerance limits of landowners.

Action: Ongoing.

- e. Take a more active role with county governments in Growth Management Planning to prevent human encroachment on important elk habitat.

Action: Region 5 staff are working with members of the local Klickitat County community to identify elk management needs in relation to proposed residential growth.

- f. Take a more active role with USFS and DNR in timber stand management that provides better elk habitat. Provide advice to USFS, DNR, and the private timber industry on pre-commercial thinning and commercial thinning that would improve elk habitat. Provide advice to DNR and private timber industry regarding reduced herbicide treatments of understory plants that are important elk forage. Work with state, federal, and private land managers to explore the best size and spacing for clear-cuts that will benefit elk.

Action: Region 1 staff continue to work with the Umatilla National Forest regarding discussions for controlled burning on the Wenaha Wilderness. Region 5 staff have provided recommendations for select forest thinning to improve elk habitat to the Gifford Pinchot National Forest in the Southern Cascades. Region 6 staff continue to interact and work with Olympic National Forest Staff on timber thinning sales to benefit elk.

- g. Secure private lands with valuable winter range in GMU 368 (Yakima Herd).

- h. Secure in-holdings in the Wenas Wildlife Area in GMU 342 (Yakima Herd).

- i. Acquire important elk habitat in the Skookumchuck and Naneum Basins (Colockum Herd).

Action: This activity continues in conjunction with the Rocky Mountain Elk Foundation and in discussions with wind power proponents.

- j. Purchase, lease, acquire easements and use other incentives to protect and enhance critical elk habitat located along the North Fork of the Lewis River (Mount St. Helens Herd).
- k. Secure important elk habitat in the Lick Creek unit GMU 175 (Blue Mountains Herd).
Action: Acquired Schlee Ranch, Candi parcel
- l. Secure important elk habitat in the Tualum Drainage of the Tucannon unit, GMU 166 (Blue Mountains Herd).
- m. Secure elk winter range in the Mountain View unit, GMU 172 (Blue Mountains Herd).
Action: Completed.
- n. Secure important elk habitat in the bottomlands along the Upper Cowlitz River (South Rainier Herd).
- o. Purchase, lease, acquire easements and use other incentives to protect and enhance critical elk winter ranges located along the Skagit River bottomlands (North Cascades Herd).
- p. Purchase, lease, acquire easements and use other incentives to protect and enhance other key areas identified in future elk herd plans.

Objective 31

Determine by 2008 if available summer and fall forage is predisposing Mount St. Helens elk to higher than normal winter mortality.

Strategies:

- a. Measure body condition of Mount St. Helens elk before and after winter.
Action: Condition data were collected from elk captured and relocated from this herd to the Nooksack herd in fall 2003 and 2005. Additionally, organs were collected from a sample of hunter-killed elk during fall 2004. More organ data collection from harvested elk is planned.
- b. If necessary, develop cooperative projects with USFS, DNR, and Rocky Mountain Elk Foundation to improve elk habitat for Mount St. Helens herd.
Action: Being pursued as opportunities arise.

Objective 32

Inform and educate all portions of the general public regarding elk biology and elk issues impacting the state of Washington. Provide the general public with additional information about elk.

Strategies:

- a. Expand educational opportunities pertaining to elk on the agency web site and develop brochures for direct mailing by 2008.
Action: Working with the local community, developed the Quinault Roosevelt Elk festival with a primary goal of public education about the needs of elk and elk management issues in western Washington forests.
- b. Develop a brochure that informs the public how to best enjoy elk without adding undue stress during critical times of the year (e.g., winter, calving, breeding).
Action: An emergency winter closure was imposed on the Cummings Creek drainage on the W.T. Wooten Wildlife Area in the Spring of 2005 to address harassment issues and

private land damage issues. Partly addressed through the recently published book “Living with Wildlife” by WDFW biologist Russell Link. Deer and Elk Section staff contributed to the deer and elk material in the book.

- c. Publish two news articles per year regarding viewing opportunities.
- d. Update and improve the Department’s current brochure on “Identification and Age Determination of Washington Deer and Elk” by 2005.
Action: Resurfaced due to public request. Active project in progress as of spring of 2006.
- e. Investigate the possibility of writing and publishing a book about the deer and elk of Washington using outside cooperators and outside funding sources. Determine feasibility of the project by 2008. Determined not feasible under current workload and current resources.

Objective 33

Evaluate the current elk-feeding program. Reduce the dependency on supplemental feeding if possible.

Strategies:

- a. Evaluate the current Yakima elk-feeding program by 2005.
Action: Part of this analysis will be incorporated into data analysis from the landscape scale Yakima elk study. Relevant data are being collected relative to the biological and elk distributional effects of winter-feeding. This project will likely be delayed until the Yakima elk herd study has been completed.
- b. Using data generated from the Yakima elk herd study (see Research Section), report on the costs, benefits, and impacts on range condition of managing for different Yakima elk herd sizes by December 2007.
Action: The impacts on range condition aspect of this has not been pursued to date due to funding constraints. It was originally envisioned that this element would be pursued using a graduate student research project at an accredited university, but attempts to develop this cooperative arrangement have not been productive to date.
- c. Using the data generated from the Yakima elk herd study, determine if the Yakima elk herd population objective needs to be adjusted by December 2008. If the population objective is changed, determine what impact that will have on the surrounding environment, hunting opportunities, viewing opportunities, and the current feeding program.
Action: Data continue to be collected. Analysis is pending the completion of the Yakima study.
- d. Identify which feeding sites are essential to meeting Yakima elk herd management objectives.
- e. Identify areas where elk feeding efforts might be reduced. Eliminate some elk feeding sites if possible.
- f. Evaluate alternatives to the current feeding program such as diversionary forage plots, additional winter range acquisition, mineral supplements, or any other approaches that help redistribute elk activity.
Action: This evaluation will be more feasible after the conclusion of the Yakima Elk Study.

Objective 34

Assess whether current winter-feeding policy is appropriate and being implemented.

Strategies:

- a. Identify all locations where emergency feeding and supplemental feeding of wildlife is taking place by 2004.
Action: Largely known at this time. Completed.
- b. Ascertain whether winter-feeding policy is being followed in all locations of Departmental feeding by 2005.
Action: New winter-feeding policy has been updated. Elk were fed on the Wooten Wildlife Area for two days following the School Fire in 2005. The elk then moved on and did not return.
- c. Make recommendations for those sites that are not adhering to policy to bring them into compliance.
- d. Look for alternatives to supplemental and emergency feeding whenever possible. Determine if salt or mineral supplements would be a useful tool in improving body condition, recruitment of young, reducing parasite loads, or disease management.

Objective 35

Monitor the health and disease status of wild elk in Washington.

Strategies:

- a. Take blood and tissue samples when elk are captured and tested for diseases common to elk.
Action: Ongoing. Appropriate samples were collected from the elk captured at the St. Helens Wildlife Area during October 2003. Samples are opportunistically taken from elk mortalities as they become available. Considerable data has been collected, and Washington elk have been remarkably free of diseases of concern. Washington elk typically carry common elk parasites.
- b. Sample hunter harvested elk for chronic wasting disease.
Action: Ongoing. CWD samples were collected from a very limited number of elk in Region 5. The current sample design established by WDFW veterinary staff emphasizes the collection of CWD samples from deer and deemphasizes a similar effort for elk. Intensive sampling is being redirected to deer species in response to guidance from CDC and USDA. A few CWD samples have been taken from elk in Region 1.
- c. Follow U. S. Department of Agriculture and Washington Department of Agriculture guidelines for reporting and action when a disease is detected.
Action: Ongoing. WDFW Veterinary Staff would address this issue if such a situation arose.

Objective 36

Determine the appropriate population size for the Yakima elk herd given the number of environmental, social, recreational, and economic values assigned to this herd by various user-groups.

Strategies:

- a. Detailed analysis of habitat condition and trend is needed to better define a population goal that protects other values, including environmental, social, and economic values of this region.
Action: Currently being pursued in partnership with the US Forest Service.
- b. Conduct intensive remote sensing data collection and GIS analyses.
- c. Use radio-telemetry to define elk use of sensitive habitats.
Action: Radio-telemetry data collection is ongoing. To date, in excess of 40,000 elk radio relocations have been generated in the Yakima Elk Study.
- d. Use radio-telemetry to define movements of elk between specific summer and winter ranges.

Action: A study that will accomplish all of these strategies was initiated in 2003.

Objective 37

Identify research questions to be answered regarding elk ecology and management and design experiments and studies that address those questions. Estimate total mortality for adult elk in the Blue Mountains. This project would focus on estimating survival for male elk, but information on female elk survival would also be useful to managers. Partition the total mortality as accurately as possible among all sources of mortality. Complete the project by 2008.

Strategies:

- a. Quantify total mortality for adult elk for one or more PMUs in the Blue Mountains. To accomplish this, a large-scale telemetry project is needed to obtain defensible survival estimates.
- b. Quantify the impact of human-caused mortality on elk in the Blue Mountains, particularly the impacts of various sources of hunting mortality on adult and yearling bull elk.
- c. Quantify the impacts of unreported mortality, such as tribal harvest, wounding losses, damage hunt loss, and poaching losses.
- d. Address the management implications of those various sources of mortality.

Action: A study that will accomplish all of these strategies was initiated in 2003. Approximately 200 elk have been radio-marked in this study. The project is slated for formal completion during 2006, but data analysis may extend past this. Fieldwork has been completed. Data analysis is underway. Project will be completed by April of 2008.

Objective 38

Ascertain the population dynamics of the Colockum elk herd by 2008.

Strategies:

- a. Determine adult and juvenile elk survival for the Colockum elk herd.
Action: Discussions regarding a possible study design to accomplish the strategy have begun and will be described in the Colockum elk herd plan.
- b. Determine the cause of poor recruitment, including an assessment of body condition dynamics of adult cow elk.
Action: Monitoring heart and kidney fat from hunter-harvested elk was initiated in 2003 to help accomplish this strategy. Monitoring will continue in 2004. Ongoing with organ

data from harvested elk, but would be supplemented with live elk data if a Colockum elk study is initiated.

- c. Analyze habitat conditions and trends at the landscape scale using remote sensing and ground-truthing.

Objective 39

Quantify the differences in body condition, productivity, and recruitment for two elk sub-populations, one having access to mitigation enhancement fields and one that does not.

Strategies:

- a. Using telemetry, evaluate elk use of the Wynoochee forage enhancement fields.
- b. Assess the effect of use of the fields on elk body condition and productivity.
- c. Monitor demographics in both elk sub-populations.
- d. Monitor body condition in both sub-populations and relate body condition scores to elk landscape use, including use of the forage enhancement fields.

Action: A study that will accomplish all of these strategies was initiated in 2003. The study has been completed. A PhD dissertation was completed and is available from Washington State University. A report for publication is being prepared for submission to Journal of Wildlife Management.

Objective 40

Gain a better understanding of the population dynamics and habitat use of elk in the upper Kittitas Valley.

Strategies:

- a. Gather specific information on elk and deer movements, landscape use, and population dynamics in the upper Kittitas Valley.

Action: A funding request to the Washington legislature by the Big Game Management Roundtable (a Kittitas County agency/citizen group) to support this strategy was not funded in FY2005.

- b. Collect data on deer and elk in a dynamic landscape where managing human-wildlife interactions can be expected to become increasingly complex.
- c. Coordinate project with staff conducting the Project CAT effort.
- d. Explore possible elk management options despite the presence of a large private land refugium. Explore management options for small and large private landowners to improve habitat for elk.

Action: Discussions ongoing. The Big Game Management Roundtable was created to foster dialogue on these options.

- e. Enhance the specific project objectives of the on-going cougar project.

Objective 41

Determine aspects of elk populations that require further scientific investigation.

Strategies:

- a. Identify new questions to be answered for elk populations.
Action: Ongoing
- b. Conduct a literature search and develop study plan proposals that address the identified issues.
- c. Explore internal and external funding opportunities for additional studies pertaining to the identified elk issues.
- d. Develop study proposals in preparation for subsequent planning processes.

DEER

Objective 42

Determine by 2008 if the current PMU designations for Washington deer populations are representative from a biological standpoint.

Strategies:

- a. Review the current information available for Washington deer including the primary literature, WDFW reports, federal reports, tribal reports, university research, and contractual reports. Investigate the current information seasonal movements, migrations, critical areas, home range sizes, etc.
Action: Discussions among staff have begun. An internal white-tailed deer working group has been created specific to white-tailed deer management issues in Region 1. Meetings schedule summer 2006. Ongoing through March 2008.
- b. Maintain those PMUs that adequately represent deer populations.
Action: Pending identification of such PMUs. Summer 2006. Ongoing through March 2008.
- c. Modify those PMUs that do not currently represent deer population movement, activity, and harvest. Summer 2006.
Action: Ongoing through March 2008.

Objective 43

Determine how well existing survey protocols for black-tailed deer are working by 2005.

Strategies:

- a. Conduct a literature search for existing population estimate and population index techniques that would be appropriate for black-tailed deer.
Action: Pending
- b. Document and/or standardize existing survey protocols for black-tailed deer.
Action: Informal discussions among district wildlife biologists with responsibilities for black-tailed deer are ongoing. Summer 2006. Ongoing through March 2008.
- c. When necessary, develop and standardize new survey protocols for black-tailed deer. Summer 2006. Ongoing through March 2008.
- d. Determine key parameters to monitor for black-tailed deer. Incorporate those parameters in population models. Validate the parameters.

Objective 44

- a. Maintain black-tailed deer population numbers within habitat limitations.
- b. Maintain greater than 15 bucks:100 does after the hunting season.
- c. Maintain both antlered and antlerless opportunity for black-tailed deer at appropriate levels.

Strategies:

- a. Review the current information available for black-tailed deer including the primary literature, WDFW reports, federal reports, tribal reports, other state agency reports, university research, and contractual reports.
Action: Appropriate Regional Staff have reviewed available information as time permits.
- b. When appropriate, conduct post-hunt population surveys to ascertain population size or index.
Action: Ongoing in some Districts. Aerial post-hunt black-tailed deer surveys were initiated in GMU 588 in December of 2003. These surveys were repeated in 2004, but funding for flights was un-available so they were conducted from the ground. Post-hunt black-tailed deer surveys have not been conducted in other portions of Region 5. Aerial surveys will be conducted again in GMU 388 (formerly 588).
- c. When appropriate, conduct post-hunt population survey or conduct mortality studies to ascertain buck survival through the hunt period.
Action: Regional deer hunting check stations were historically operated to ascertain the annual yearling buck percentage in all of District 10 and the western portion of District 9. This figure substitutes for overall buck mortality rate. In the eastern portion of District 9, antler-point restrictions preclude the use of this technique and a combination of antler-point data reported by hunters and post-season surveys are used to estimate buck mortality rates. More recently, check stations have emphasized the collection of samples for chronic wasting disease and harvest report antler data has been used to estimate buck mortality rates. Buck mortality work utilizing radio-collared deer was recently completed and reports written.
- d. When appropriate, conduct pre-hunt surveys in summer and early fall to measure productivity and to measure the ratio of bucks per does and the ratio of legal bucks per does.
Action: Ongoing in some Districts. Pre-hunt black-tailed deer composition surveys have been conducted throughout Region 5 since 1993. The focus of these surveys is to estimate annual productivity (fawn to doe ratio). Information related to the buck segment of the population is collected incidentally to these productivity surveys. It is anticipated that these surveys will continue into the near future.
- e. When possible, influence federal, state, and private landowners to manage western Washington deer habitat to benefit black-tailed deer.
Action: District 9 staff from Wildlife and Enforcement Programs worked with DNR to provide secure habitat for black-tailed deer by enforcing road and ATV restrictions. District 9 Staff from Wildlife and Habitat Programs have worked with the USFS to better understand the impacts of cattle grazing on deer populations in the central portion of the District. District 9 staff also worked with USFS to design forest-thinning prescriptions designed to benefit deer. Additional activities are being conducted in association with Pacificorp's mitigation for hydroelectric projects on the North Fork Lewis River. The agency is pursuing these opportunities as they arise.

Objective 45

- a. Maintain greater than 15 bucks: 100 does in post-hunt surveys.
- b. Define which Population Management Units (PMUs) or Game Management Units (GMUs) will be managed for older age structure in the buck sub-population.
- c. Increase both antlered and antlerless hunting opportunity for all user groups when appropriate.
- d. Maintain mule deer populations within tolerance of landowners.

Strategies:

- a. Conduct post-hunt population surveys to ascertain population size or index.
Action: Ongoing in some Districts. Post-hunting season mule deer surveys were initiated in GMU 382 and 388 in 2003 and continued through 2006.
- b. Conduct post-hunt population survey to ascertain buck survival through the hunt period.
Action: Ongoing in some Districts. Post-hunting season mule deer surveys were initiated in GMU 382 and 388 in 2003 and continued through 2006.
- c. Conduct spring “green-up” surveys to determine winter survival of adults and juveniles and use this information to set special permit quotas and antlerless seasons for the coming fall hunting season.
Action: Ongoing in some Districts. Spring surveys were attempted in GMU 382 in March of 2004. However, the ground-based survey proved ineffective, as few deer were located during the survey. Note that spring surveys have been conducted for deer in GMU 388 for at least the past 25 years.
- d. Conduct pre-hunt surveys in summer and early fall to measure productivity and to measure the ratio of bucks per does and the ratio of legal bucks per does.
Action: Ongoing in some Districts (all districts in Region 1). A limited number of pre-hunting season mule deer composition surveys have been conducted in GMU 382.

Objective 46

Develop a baseline set of measurements using body condition ultrasonography for mule deer.

Strategies:

- a. Complete cooperative mule deer research study.
Action: Project nearing completion.
- b. As part of the cooperative mule deer study, report on the development of a body condition score that can be used for Washington mule deer.
Action: Data is being collected by researchers at Washington State University, in cooperation with agency staff, utilizing tame mule deer and controlled feeding regimes to establish a range of body conditions.
- c. If feasible, implement body condition scoring to assess overall health of mule deer and mule deer range.
Action: If feasible, implement body condition scoring to assess overall health of mule deer and mule deer range. Pending completion of strategy “b” (above).

Objective 47

Improve and expand the survey protocols for mule deer by 2008.

Strategies:

- a. Conduct a literature search for existing population estimation techniques that would be appropriate for mule deer.
Action: Initiated in 2005 in preparation for an ungulate monitoring workshop held in May 2005 in Reno, NV. WDFW presented an overview of techniques currently being used among northwest states (WA, OR, ID).
- b. Document and/or standardize best-case survey protocols for mule deer throughout the state. Summer 2006. Ongoing through March 2008.
- c. When necessary, develop and standardize new survey protocols for mule deer.
Action: District 2 biologists experimented with some quadrat surveys in 2004 and with a variety of other survey methods in an attempt to develop a better survey protocol for mule deer in Lincoln and Whitman County. Ongoing through March 2008.
- d. Validate existing survey protocols for mule deer. Ongoing through March 2008.

Objective 48

- i. Maintain greater than 15 bucks:100 does in post-hunt surveys.
- ii. Maintain antlered and antlerless hunting opportunity for all user groups if possible.
- iii. Maintain white-tailed deer populations within the tolerance of landowners.

Strategies:

- a. Conduct post-hunt population surveys to ascertain population size or index.
Action: Ongoing in some districts.
- b. Conduct post-hunt population surveys to ascertain buck survival through the hunt period.
Action: Ongoing in some districts.
- c. Conduct spring “green-up” surveys to determine winter survival of adults and juveniles and use this information to set special permit quotas for the coming fall hunting season.
Action: Ongoing in some districts.
- d. Conduct pre-hunt surveys in summer and early fall to measure productivity and to measure the ratio of bucks per does and the ratio of legal bucks per does.
Action: Ongoing in some districts (all Region 1 Districts).
- e. Develop an issue paper that identifies the optimum range of mature bucks in the standing population and in the harvest. The paper will review the current scientific literature and incorporate population-modeling efforts designed specifically for white-tailed deer, and public involvement. The paper will be completed by 2005.

Action: All of the above strategies are ongoing.

Objective 49

Improve and expand the existing survey protocols for white-tailed deer by 2008.

Strategies:

- a. Conduct a literature search of existing techniques.
Action: Initiated. Creation of an internal White-tailed Deer Working Group is facilitating discussion of these techniques.
- b. Consult with statisticians at various universities for latest developments in population estimation.

Action: Initiated dialogue with faculty and graduate students at Colorado State University where they have been working on such issues.

- c. Document and/or standardize best-case survey protocols for white-tailed deer throughout the state. Summer 2006. Ongoing through March 2008.
- d. Validate existing survey protocols for white-tailed deer. Ongoing through March 2008.
- e. If necessary, develop a new survey protocol for a population estimate or a population index for white-tailed deer in eastern Washington. Summer 2006.

Action: Assigned to the White-tailed Deer Working Group.

- f. Determine key parameters to monitor white-tailed deer. Incorporate those parameters in population models. Validate the models.

Action: Assigned to the White-tailed Deer Working Group. Meetings scheduled this summer. Pre-proposal will be presented at August, internal WDFW deer/elk research meeting. Proposal will be developed and finalized based on input received from staff.

Objective 50

Explore the possibility of using 1.5 year-old male weights as a measurement of herd health or habitat condition in those GMUs that allow any buck hunting for white-tailed deer.

Strategies:

- a. If possible, develop a range of standardized weights that indicate whether a 1.5 year-old buck is in good, fair, or poor condition.
- b. If necessary, conduct hunting season check stations and collect data on yearling buck carcass weights.
- c. If feasible, correlate yearling buck carcass weights to deer population density and quality of available forage.

Objective 51

Maintain a variety of deer hunting opportunities within each administrative region. Increase antlerless hunting whenever possible.

Strategies:

- a. Increase the number of days in the general hunting season when appropriate.
- b. Increase or decrease the number of antlerless special permits when appropriate.
- c. Increase or decrease the number of any deer opportunities when appropriate. Allocate opportunity according to general strategies identified in Chapter 3 under Hunter Regulations.

Action: All of the above strategies are ongoing.

Objective 52

Determine the relationship between habitat, predation, body condition and other factors as they relate to Washington mule deer survival and recruitment.

Strategies:

- a. Complete Mule Deer Cooperative Study.
Action: Project nearing completion.

- b. Provide information summaries and technical reports to the public.
Action: Pending completion of strategy “a” (above).
- c. Present results for the study in a variety of public forums.
Action: Updates on the study have been published on the WDFW website.
- d. Publish the results of the study in the primary, scientific literature.

Objective 53

Determine the population level impact to black-tailed deer of hair loss syndrome by 2008.

Strategies:

- a. Identify areas with black-tailed deer populations that have a high incidence of hair loss syndrome and populations with low or no levels of hair loss syndrome.
Action: This assessment has begun and is continuing via a cooperative effort of the agency’s veterinary staff and District Biologists from Regions 4, 5, and 6.
- b. Initiate comparative studies on black-tailed deer populations with high levels of hair loss syndrome and those at lower levels to determine differences in fawn and doe survival.
Action: Some preliminary work on this has been accomplished using radiocollared deer, but it is not a formal study at this time. The agency is also taking advantage of work the Oregon Department of Fish and Wildlife is involved in relating to hair loss syndrome in black-tailed deer.

Objective 54

Develop a better understanding of mortality rates in adult, male black-tailed deer.

Strategies:

- a. Identify new locations to conduct black-tailed deer buck mortality studies.
- b. If funding is available, continue the black-tailed deer buck mortality studies initiated in 1999.
Action: Due to funding constraints and other priorities, this work has not been formally continued.

Objective 55

Explore the possibility of conducting white-tailed deer research in areas that have increasing white-tailed deer populations and declining mule deer populations.

Strategies:

- a. Identify areas that have declining populations of mule deer and increasing populations of white-tailed deer.
- b. Explore the possibility of investigating the impact of expanding white-tailed deer populations on mule deer populations.
Action: Graduate student research has been initiated by Washington State University to reveal some of these dynamics. The work was developed as a component of the Cooperative Mule Deer Research Project.
- c. Explore the possibility of investigating the impact of expanding white-tailed deer populations on large predator populations.
Action: Graduate student research has been initiated by Washington State University to

evaluate cougar predation on northeast Washington deer populations and responses of cougars to dynamics of mule deer and white-tailed deer abundance and distribution. The work was developed as a component of the Cooperative Mule Deer Research Project.

Objective 56

Try to maintain or enhance black-tailed deer foraging habitat.

Strategies:

- a. When funding permits, acquire critical black-tailed deer habitat or conservation easements on critical black-tailed deer habitat.
Action: WDFW is pursuing these opportunities whenever they develop.
- b. Work with state, federal, and private land managers to conduct pre-commercial thinnings and commercial thinnings that will benefit black-tailed deer.
Action: Additional activities are being conducted in association with Pacificorp's mitigation for hydroelectric project on the North Fork Lewis River.
- c. Work with state, federal, and private land managers to explore the best size and spacing for clear-cuts that will benefit black-tailed deer.
Action: District 9 staff conducted such activities in association with USFS in the southern Cascades.
- d. Work with county government growth management planners to prevent the loss of black-tailed deer habitat.
Action: Ongoing

Objective 57

Try to maintain or enhance mule deer habitat including forage and security cover. Direct the Department's focus toward mule deer habitat improvement and protection.

Strategies:

- a. Acquire critical mule deer habitat or conservation easements on critical mule deer habitat.
Action: Ongoing as realistic opportunities develop.
- b. Work with state, federal, and private land managers to conduct prescribed burns that will benefit mule deer.
- c. Work with county government growth management planners to limit the expansion of human development on mule deer range.
- d. Work with the Mule Deer Foundation to conduct projects that improve winter range for mule deer.

Action: All of the above strategies are ongoing.

Objective 58

Try to maintain current status of white-tailed deer habitat.

Strategies:

- a. Work with state, federal, and private land managers to conduct prescribed burns that will benefit mule deer and not expand white-tailed deer habitat.

- b. Work with county government growth management planners to limit the expansion of white-tailed deer habitat due to human development.

Objective 59

Provide more information regarding deer biology and deer issues to the general public.

Strategies:

- a. Interact with local outdoor groups to discuss deer management topics.
Action: Region One staff routinely attend regular meetings of local sportsmans clubs (Inland Northwest Wildlife Council, Chewelah Sportsmen, Pend Oreille Sportsmen, Richland Rod, and Gun Club). Staff routinely meet with outdoor groups as invitations are received. These interactions range from educational talks to schools and hunter organizations to dialogue on management issues and future direction of deer management in Washington.
- b. Produce new informational handouts for black-tailed, white-tailed, and mule deer on deer biology and natural history. Provide this information to the general public and the regional offices and headquarters.
Action: Staff contributed material on Washington's deer species to the recently published book "Living with Wildlife" by WDFW biologist Russell Link.
- c. Incorporate deer information in WDFW's Go Play Outside program.
- d. Update and continue to produce the chronic wasting disease (CWD) handout, fact sheet, and web site.
Action: Ongoing.
- e. Publish two news articles regarding watchable deer opportunities.
- f. Update and improve the Department's current brochure on "Identification and Age Determination of Washington Deer and Elk" by 2005.
Action: Work in progress 2006.
- g. Investigate the possibility of writing and publishing a book about the deer and elk of Washington using outside cooperators and outside funding sources. Determine feasibility of the project by 2008. Determined not feasible under current workload and available resources.

Objective 60

Reduce damage caused by deer.

Strategies:

- a. Identify priority areas for deer caused damage.
- b. Focus more attention on prevention of damage to reduce the number of lethal removals and the number of cash payments made by the Department.
- c. Increase antlerless harvest in damage areas using all three major weapon groups (archery, muzzleloader, and modern firearm) when appropriate.
- d. Offer early and late season hunts specific to damage areas for muzzleloader and modern rifle hunters.
- e. Increase harassment factor in chronic damage areas using archery hunters.

- f. Explore the possibility of using more hunters with disabilities to deal with damage problems.

Action: All of the above strategies are ongoing.

Objective 61

Monitor deer for disease and reduce the risk of disease when possible

Strategies:

- a. Continue to monitor for chronic wasting disease (CWD).
Action: Ongoing. Chronic Wasting Disease monitoring continued at a high level through the fall 2004 hunting season through game check stations and a volunteer deer head drop off at the Regional Office.
- b. Develop a prevention plan by December 2002 to reduce the risk of CWD entering Washington.
Action: Developed a chronic wasting disease program report instead.
- c. Enforce the current regulations that prevent the captive farming of native deer and elk in Washington.
Action: Ongoing effort by WDFW enforcement.
- d. Develop a contingency plan by December 2002, in the event that CWD is ever found in Washington.
Action: Draft in progress.
- e. Continue to monitor for epizootic hemorrhagic disease (EHD).
Action: Ongoing. Produced informational webpage.
- f. Continue to monitor for adenovirus hemorrhagic disease (AHD).
Action: Ongoing.
- g. Continue to monitor for tuberculosis.
Action: Ongoing.
- h. Continue to monitor the affects of hair loss syndrome on black tailed deer populations (see research section).
Action: Ongoing.

BIGHORN SHEEP

Objective 62

Conduct habitat improvement projects on $\geq 10\%$ of the habitat in bighorn ranges in Vulcan Mountain, Swakane, and the Blue Mountains.

Strategies:

- a. Inventory and map habitat conditions.
Completed: Broad scale habitat conditions mapped via contract with BLM. Habitat conditions in unoccupied areas mapped via contract with BLM. Habitat conditions for Swakane herd mapped via agreement with Forest Service. Habitat conditions for Blue Mountain herds mapped by Hells Canyon project personnel. Habitat conditions of sparsely-occupied range in Region 5 mapped by WDFW staff.
- b. Conduct controlled burns to improve habitat quality.

- c. If not detrimental to other habitat or wildlife objectives, consider distributing fertilizer and herbicides to improve forage quality.
- d. Distribute mineral blocks to supplement forage quality.
- e. *Completed:* Mineral blocks were distributed in Vulcan Mountain herd by BLM.
- f. Distribute water sources to improve habitat quality.
Completed: Water source was developed in Vulcan Mountain herd by BLM/FS/WDFW/WAFNAWS.
- g. Pursue other activities that enhance desirable native plant communities.
Completed: Habitat food plots developed for Blue Mountain bighorn herd. District 1 Wildlife Biologists worked closely with the BLM on a thinning project and with a landowner on a weed control project on Vulcan Mountain.

Objective 63

Develop a prioritized list of potential bighorn sheep relocation areas by January 2003.

Strategies:

- a. Prioritize potential relocation areas using a geographical information system (GIS), coupled with various landscape variables (e.g., forage, cover, and anthropogenic activities), and a meta-population analysis.
Completed: Contract with BLM
- b. Prioritize potential relocation areas based on cooperative agreements, collaborations, and funding availability.
Completed: Contract with BLM
- c. Prioritize potential relocation areas using on-the-ground habitat evaluations.
Completed: Contract with BLM

Objective 64

Establish two new bighorn sheep herds by 2008.

Strategies:

- a. Relocate sheep from existing herds in Washington or out-of-state herds.
Completed: Relocated bighorn sheep to new herd at Chelan Butte.
- b. Allow the establishment of new herds through natural colonization of bighorn sheep.
Action: Natural colonization occurring from Tieton and Lincoln herds, as well as in the Blue Mtns.
- c. Re-establish the Tucannon herd as Rocky Mountain bighorns instead of California bighorns.
Action: Postponed due to wildfire.

Objective 65

Maintain bighorn sheep population size as indicated in Table 1.

Strategies:

- a. For herds that are exceeding population goals trap and relocate sheep to an alternate area.
Action: On-going annual effort to trap and relocated sheep from Cleman Mountain and Selah Butte because exceeding population objective.
- b. For herds that are exceeding the desired population size, establish ewe harvest opportunities as indicated in Objective 68, Strategy g.
Action: Not necessary at this time because trap and relocation efforts are preferred.
- c. For herds that are below the desired population size, consider restricting harvest (see Objective 68, Strategy d) and augmenting the population.
Completed: Harvested restricted in Swakane due to population size and growth concerns.

Objective 66

Monitor bighorn sheep herds at a level where a 20% change in population size can be detected within 3-years or less.

Strategies:

- a. Estimate minimum number of sheep, ram:ewe ratio, and ewe:lamb ratio annually for each herd.
Completed: Annual survey for all sheep herds.
- b. Develop a sightability correction factor to estimate population size from annual surveys (Bodie et al. 1995).
Completed: Developed sightability model for Blue Mountain herds and expanding to other areas.
- c. Use radio collared sheep to enhance sightability of sheep during surveys.
Completed: Current use radio collared sheep to enhance sightability in Lake Chelan, Lincoln Cliffs, and Teton herds
- d. Use population models to estimate changes in population size.
Action: Have not found it to be necessary.

Objective 67

Eliminate interactions between domestic sheep and bighorn sheep in the Swakane herd, Hells Canyon herds, Cleman Mountain, and areas identified for repatriation of bighorn sheep.

Strategies:

- a. Maintain at least a 9-mile buffer between domestic sheep and bighorn sheep (BLM 1998).
- b. Pursue the purchase of grazing leases and conservation easements.
Completed: A major domestic sheep farm flock issue in Blue Mountains resolved.
- c. Develop physical or habitat barriers between domestic and bighorn sheep.
- d. Work with livestock producers to reduce transmission of disease and parasites from domestic sheep to bighorns.
Action: District 3 biologists have collected adult sheep and lambs over this review period for disease research.

Objective 68

Provide recreational hunting season opportunities for individual bighorn sheep herds where harvest success averages $\geq 85\%$ over a 3-year period, while at the same time bighorn population size remains stable or increasing.

Strategies:

- a. Conduct bighorn sheep hunts by permit only and allow harvest of any ram.
Completed: On-going annual bighorn sheep hunting seasons in 6-7 herds. A new permit hunt established in Vulcan Mountain and Blue Mountains.
- b. Do not hunt transplanted animals for at least five years after initial release to ensure success of the transplant.
Completed: Hunting in Lake Chelan and Tieton herd in 2004; 5 years after of initial release.
- c. Survey herds annually for at least two years prior to being hunted to determine size, composition, and trend.
Completed: Annual surveys of all herds.
- d. Set ram permit levels as indicated in Table 2.
Completed: Used to set annual permit levels.
- e. Adjust permit levels for herds bordering other states and provinces to account for management activities of these other areas.
- f. Consider reducing permit levels or terminating all permits (depending on population size and rate of decline) for herds declining due to disease or high parasite loads.
Action: No significant declines detected.
- g. Use trap and relocation as the primary method of reducing overpopulated herds. Consider ewe harvest as a secondary method, with the following conditions:
 1. Ewe permits should not exceed 10-20% of the adult ewe population.
 2. A harvested ewe would not count toward the one sheep a hunter can harvest in a lifetime.

Objective 69

Distribute recreational opportunity to as many individuals as possible, compatible with high quality sheep hunting experiences and the biological status of bighorn populations.

Strategies:

- a. Allow bighorn sheep hunting by permit only.*
Completed: All bighorn sheep hunting is by permit only.
- b. Allow “once-during-a-lifetime” opportunity for bighorn sheep hunters.*
Completed: Hunters may only harvest one bighorn sheep in WA during their lifetime (except auction/raffle).
- c. Consider developing a preference point system consistent with deer and elk systems.
- d. Consider other alternatives to reduce crowding.
Completed: Split season for bighorn sheep seasons in areas with ≥ 6 permits.

*Strategy is currently implemented.

Objective 70

Develop viewing opportunities for two bighorn sheep herds.

Strategies:

- a. Develop vehicle tour and education board for bighorn sheep viewing areas.
Action: Posted signs for two bighorn sheep viewing opportunities at Heller Bar and the mouth of Cottonwood Creek in southeast Washington.
- b. Develop a web-cam viewing opportunity for bighorn sheep.

Objective 71

Provide educational information on bighorn sheep to at least 50,000 people annually and emphasize contribution of hunters to bighorn sheep recovery.

Strategies:

- a. Develop a brochure describing bighorn sheep ecology and management, threats from disease, as well as their history in Washington.
- b. Develop educational viewing opportunities for bighorn sheep (see Objective 69).
- c. Discuss bighorn sheep management at public forums.
Completed: Discussed bighorn sheep management issues at FNAWS conventions, Bighorn show, and during Commission briefings.
- d. Develop segment for Wild About Washington video.
Completed: Wild About Washington segment on bighorn sheep during Feb 2004.

Objective 72

Account for all known bighorn sheep mortalities.

Strategies:

- a. Permanently mark the horns of all dead bighorn sheep rams that are recovered from the field.*
Completed: All horns are permanently marked.
- b. Require mandatory reporting for all bighorn sheep hunters.*
Completed: All horns are permanently marked.

* Strategy currently is implemented.

Objective 73

Acquire biological information that aids in bighorn management.

Strategies:

- a. Investigate parasite outbreak in the Vulcan Mountain herd.
Completed: Parasite identified in Vulcan herd. Fecal samples are regularly collected from this herd and analyzed by WSU.
- b. Investigate the recovery of bighorn sheep from pasteurilla in Hells Canyon.

Action: On-going bighorn recovery project implemented through Hells Canyon Initiative. District 3 biologists have collected adult sheep and lambs over this review period for disease research.

- c. Investigate the impacts of predation on recently established herds or herds with fewer than 100 animals.

Completed: Investigated predation impacts through Hells Canyon Project.

- d. Investigate the probability of interactions between bighorn sheep and domestic sheep in areas where the two overlap.

- e. Investigate inbreeding effects among bighorn sheep.

Completed: Inbreeding effects for WA source sheep investigated by ODFW and published.

MOUNTAIN GOAT

Objective 74

Develop a document identifying the locations and quality of suitable mountain goat habitat in Washington.

Strategies:

- a. Map goat habitats from a review of historic distribution and local expertise of all mountain goat sub-herds

Completed: Goat habitat mapped as part of goat research project.

- b. Conduct surveys to determine locations and quality of suitable goat habitats.

Completed: Goat habitat mapped as part of goat research project.

- c. Develop a GIS model predicting quality and locations of suitable mountain goat habitats.

Completed: GIS model published by University of Washington.

- d. Develop cooperative partnerships for mapping suitable goat habitats.

Completed: GIS model published by University of Washington and University of Idaho.

Objective 75

Monitor population demographics of mountain goats at a level where a 20% decline in population size can be detected within 3-years or less.

Strategies:

- a. Survey all goat populations annually to estimate minimum population size and recruitment.

Completed: All hunted goat populations are surveyed annually. These are located entirely in District 10. Smaller, currently un-hunted populations of goats exist in District 9 (Mt. St. Helens, Mt. Adams, etc.) These goat populations are not quantified, but USFS biologists indicate that they are increasing.

- b. As a supplemental data source, estimate goat population trends annually through hunter reports.

Action: Mountain goat research project has improved our ability to assess populations, so hunter reports are no longer needed for this purpose.

- c. Develop a sightability model to estimate population size from annual surveys.
Action: Sightability surveys implemented in summer 2004 and scheduled to be completed in 2007.
- d. Re-define goat unit boundaries if spatial use patterns of distinct populations are inconsistent with current unit boundaries.
Completed: Boundaries re-defined in Goat Rocks/Tieton River goat population and Glacier Peak.

Objective 76

Provide recreational hunting opportunities in individual mountain goat herds where harvest success averages $\geq 50\%$ over a 3-year period, while at the same time goat population size remains stable or increasing.

Strategies:

- a. Goat populations will be surveyed annually beginning at least three years prior to being hunted to determine population size, herd composition, and trend.
Completed: All hunted goat herds surveyed regularly.
- b. For populations to be hunted, surveys must indicate:
- c. Population size of at least 50 goats (Oldenburg 1991).
- d. Average production ratio of at least 25 kids: 100 non-kids over a 3-year period.
- e. For herds meeting the above criteria, permits shall be issued to limit the goat harvest to 4% of the estimated local population (excluding kids) (Hebert and Turnbull 1977, Kuck 1977, Cote et al. 2001).
- f. For each hunted population, nanny harvest will be maintained at or below 30% of the total harvest. This will be accomplished by:
- g. Requiring all goat hunters to view an educational video on mountain goat sex identification.
- h. Restricting hunting opportunity for populations with excess nanny harvest for three years of a 5-year period.
- i. Populations declining due to disease or high parasite loads may still be hunted but harvest generally will be reduced or possibly terminated depending on population size and rate of decline.
Action: Set permit levels for hunting annually based on thresholds. District 1 biologists continue to conduct an annual search for mountain goats at Linton Mountain.

Objective 77

Distribute recreational opportunity to as many individuals as possible, compatible with high quality goat hunting experiences and the biological status of goat populations.

Strategies:

- a. Allow mountain goat hunting by permit only.*
Completed: All mountain goat hunting is by permit only.
- b. Allow “once-during-a-lifetime” opportunity for mountain goat hunters.*
Completed: Hunters may harvest one goat during their lifetime (except auction/raffle).
- c. Consider other alternatives to reduce crowding.

*Strategy is currently implemented.

Objective 78

Develop one viewing opportunity for mountain goats.

Strategies:

- a. Develop a web-cam viewing opportunity for mountain goats.
- b. Develop vehicle tour and education board for mountain goat viewing areas.

Objective 79

Provide educational information on mountain goats to at least 50,000 people annually.

Strategies:

- a. Develop a brochure describing mountain goat ecology and history of Washington's populations and their locations.
- b. Develop an educational viewing opportunity and information website.
- c. Discuss management of mountain goats at public forums.
- d. Develop segment for Wild About Washington video.

Objective 80

Develop a procedure to account for all mountain goat harvest mortalities.

Strategies:

- a. Require reporting of all harvested mountain goats.*
Completed: All mountain goat hunters must report.
- b. Permanently mark all known mountain goat mortalities.

* Strategy currently is implemented.

Objective 81

Develop a peer-reviewed publication that describes at a minimum, why mountain goat populations are declining, how to reverse the decline, and how to monitor goat populations.

Strategies:

- a. Conduct a mountain goat research project investigating the cause of the goat decline.
Completed: Mountain goat research project implemented.
- b. Solicit funding to sustain a five-year research project.
Action: Funding solicited annually.
- c. Encourage partnerships with interested stakeholders to fund and participate in mountain goat research projects.
Completed: Federal and tribal partnerships developed for mountain goat research project.

MOOSE

Objective 82

Develop a document that identifies the distribution and quality of moose habitat in Washington State.

Strategies:

- a. Conduct literature review on moose habitat requirements.
- b. Conduct a survey to assess the quality of moose habitats.
- c. Develop a GIS model to predict moose range and the quality of moose habitats.
- d. Develop cooperative partnerships to assess the quality of moose habitats.

Objective 83

Monitor population demographics of moose at a level where a 20% decline in population size can be detected within three years.

Strategies:

- a. Conduct helicopter surveys for all moose population annually to estimate minimum abundance, bull:cow ratios, and cow:calf ratios.
Completed: Surveys conducted annually in portion of moose range. Early-winter moose surveys are conducted annually in Northeast Washington. Quadrat-type surveys were flown in the Mt. Spokane area.
- b. Develop a sightability correction factor to estimate relative moose density from aerial surveys.
Action: Existing Idaho Sightability is in use in District 2.
- c. Develop an index (e.g., snow track or pellet group) to estimate moose density.
- d. As a supplement data source, develop a mechanism to estimate moose population trends through hunter reports and public sightings.

Objective 84

Provide recreational hunting opportunities in individual moose herds where harvest success averages $\geq 85\%$ over a three year period, while at the same time moose population size remains stable or increasing.

Action: Permit numbers for moose have increased throughout northeast Washington. New opportunities for youth, seniors, disabled hunters, and Hunter Education instructors were added or expanded.

Strategies:

- a. Moose populations will be surveyed annually beginning at least two years prior to being hunted to determine size, composition, and trend.
Completed: Moose surveys conducted annually in portions of moose range.
- b. Moose harvest will be prescribed as follows:
- c. Maintain $\geq 90\%$ adult bulls in total harvest (Boer and Keppie 1988).
Completed: Harvest is consistently above 90% bulls older than yearlings.

- d. Maintain 10-30% antlerless moose in total harvest in areas where moose present a threat to human safety or property damage (Boer and Keppie 1988).
Completed: Moose permit levels set annually using thresholds.
- e. Consider liberalizing or restricting moose hunting opportunity as indicated below:
Completed: Moose permit levels set annually using thresholds.

Objective 85

Distribute recreational opportunity to as many individuals as possible, compatible with high quality moose hunting experiences and the biological status of moose populations.

Strategies:

- a. Allow moose hunting by permit only.
Completed: All moose hunting is by permit only.
- b. Allow “once-during-a-lifetime” opportunity for moose hunters (except youth-only antlerless moose hunts, and auction and raffle hunts).
Completed: Hunters may harvest one moose during their lifetime.
- c. Consider developing a preference point system consistent with deer and elk systems.
Completed: Bonus point system implemented.
- d. Consider other alternatives to reduce crowding.
Action: Ongoing.

*Strategy currently is implemented.

Objective 86

Develop educational document for moose in Washington.

Action: Base, et al. 2006. “History, Status, and Hunter Harvest of Moose in Washington State” published in Alces.

Strategies:

- a. Develop a brochure describing moose ecology and management in Washington.
- b. Expand WDFW’s website on moose to include basic biology, population statistics, management.

BLACK BEAR

Objective 87

Monitor population demographics of black bears at a level where a 20% change in population size can be detected within three years or less.

Strategies:

- a. Develop a survey method to estimate female and cub survival of bears in BBMUs where declines are suspected (excluding BBMU 9).
Completed: Survey to monitor female and cub survival implemented in Chelan and Thurston counties.

- b. Estimate population growth using population reconstruction and modeling.
Action: Technique not issued due to high variance in final estimate.
- c. Use sex and age ratio's of harvest bears as secondary indicator of population change.
Completed: Age and sex ratios of harvested black bear analyzed annually.

Objective 88

Identify black bear habitats that act as a population source or sink.

Strategies:

- a. Evaluate and map food availability in each BBMU.
- b. Identify lands where food availability and bear survival are high.
- c. In BBMU where population declines are suspected, evaluate bear survival.
Action: Implemented in Capitol Forest, Thurston County.
- d. Identify priority areas where management changes may be necessary.
Action: Management change to address timber damage in 3 pilot areas.

Objective 89

Implement management strategies that are consistent with the biological status of black bear and public attitudes, respectively.

Note: Some of the following strategies correspond to specific objectives within the Plan.

Strategies:

- a. Maintain current black bear hunting programs to the extent possible.
Completed: Black bear seasons status quo.
- b. Provide strategies to mitigate problem bears that correspond to methods supported by the public (see objective 92).
Completed: Black bear education materials (Be Bear Aware) provided to public annually;
On-going – Bear proof garbage cans located in key areas;
Completed: Agency kill authority implemented when needed.
- c. Focus bear hunting efforts on those areas and situations that address human safety, protection of pets, livestock and property, and recovery of listed species (see objectives 90, and 92-93).
Action: Implemented spring bear season in NE Washington to address bear nuisance activity on private land.
- d. In the annual Status and Trend report, publish the results of strategies implemented under the population objectives and public safety objectives.
Action: Progress toward bear population objectives are published annually in Status and Trend Report.
- e. Conduct a public opinion survey of black bear management by 2007.
- f. Make any changes to current bear hunting on a gradual basis to promote public involvement.
Completed: Spring bear damage hunt discussed for 2 years to provide opportunity for public involvement; implemented in April 2005 as a pilot-hunt.

Objective 90

Provide recreational hunting opportunities to harvest black bears, while at the same time maintaining a sustainable bear population in each BBMU.

Strategies:

- a. Provide black bear hunting opportunities in each BBMU, with focused harvest in areas where public safety, property damage, and pet and livestock depredation are evident.
Completed: Black bear hunting opportunities provided in all BBMUs with bears. Implemented spring bear season in northeast Washington, permits for spring bears increased in the Blue Mountains.
- b. Develop harvest criteria that incorporate survey data from monitoring female and cub survivorship.
- c. Until more robust harvest criteria are developed, consider liberalizing or restricting bear hunting opportunity in each BBMU as indicated below:

Note: Thresholds outlined in strategy “c” above are currently implemented.

Objective 91

Minimize impacts of black bear hunting on grizzly bears.

Strategies:

- a. Provide educational materials to black bear hunters that are hunting in areas with a known grizzly bear population.*
Completed: Brochures provided to black bear hunting in areas with grizzly bears. District 1 Wildlife Biologists give numerous presentations to hunter education classes in Northeast Washington relative to black bear/grizzly bear i.d.
- b. Consider conducting agency-hunter contacts during black bear hunting season in areas with a known grizzly bear population.*
Completed: Brochures provided to black bear hunting in areas with grizzly bears. District 1 Wildlife Biologists annually contact hunters in and near the grizzly bear recovery area during black bear season.

*These strategies currently are being conducted.

Objective 92

Minimize negative human-bear interactions so that the “number of interactions per capita” is constant or declining.

Strategies:

- a. Conduct “Living with Wildlife” workshops annually.
Action: Discontinued because not effective at reaching sufficient number of people.
- b. Distribute educational materials to key entities and locations.
Completed: Bear brochure annually provided to key entities and locations, and be bear aware contract established for bear educational materials.

- c. Evaluate the efficacy of capture-relocation of problem bears for mitigating conflict.
Action: On-going project evaluating the efficacy of relocation initiated in 2003.
- d. Encourage recreational bear harvest in areas with demonstrated human-bear interactions.
- e. Utilize agency kill authority and depredation permits for problem bear incidents.
Action: Agency kill authority implemented when needed.

Objective 93

Reduce annual bear damage to <30 trees/stand* on private industrial timberlands.

Strategies:

- a. Provide educational information on how to avoid timber damage by bears.
- b. Encourage the use of non-lethal methods, such as capture-relocation or aversive conditioning, for responding to timber damage by bears.
- c. Provide focused recreational bear hunting seasons in spring to mitigate timber damage by bears (see objective 94).
Completed: Recreation spring bear damage seasons implementation in spring 2005. Added Copalis unit for spring bear damage seasons, Worked with Quinault Tribe to provide legal bear harvest by non-tribal members on reservation.
- d. Issue a bear depredation permit when one of the following criteria is met:
 - 1. 30 trees peeled in a spring and trees are in a clumping pattern within a stand.*
 - 2. ≥ 30 trees peeled over an ongoing 3-year period and trees in a clumping pattern within a stand* of pre-commercially-thinned timber, ≤ 30 years of age.
Completed: This criteria is currently used for bear depredation permits.
- e. Collaborate mitigation efforts with state, federal, and private landowners, particularly efforts associated with Private Lands Wildlife Management Areas.

* Efforts will be made to standardize the definition of a “stand” to account for the frequency of damage per unit area.

Completed: Collaborated with DNR and The Campbell Group for pilot spring bear damage hunt.

Objective 94*

Determine the level of public support for spring black bear hunting in those commercial timber areas or private property that receive damage, and evaluate the feasibility of a spring damage hunt.

* See objective 14 in Chapter 2 for issue statement.

Strategies:

- a. Conduct extensive public involvement and education prior to recommending spring black bear hunting designed to reduce commercial timber damage.
Completed: Public involvement for spring bear damage season began during GMP public process; additional public involvement during 2004 commission workshop; public meeting planned during Dec. 2004.

- b. Develop a fact sheet describing the feasibility of trap and relocation efforts prior to implementing spring seasons.
Completed: Fact sheet developed by public affairs for WDFW & DNR.
- c. Implement localized spring hunts on a limited basis to determine effectiveness prior to recommending expansion.
Completed: Spring bear hunt implemented on two pilot areas in April 2005.
- d. Retain current black bear timber damage management program using contractors.
Completed: Black bear depredation permits are status quo.

Objective 95

Develop a long-term monitoring plan for assessing the level of illegal trading of bear gall bladders.

Strategies:

- a. Develop protocols to determine the prevalence of hunters that illegally sell the gall bladders from bears they harvest.
- b. Assess the level of poaching by monitoring radio marked bears.
Action: Bear mortality sources monitored via survival survey.
- c. Use under cover enforcement operations to prevent over exploitation of black bears on public lands.
- d. As opportunities occur, consider incorporating other methods to assess illegal take of black bears.

Objective 96

Develop a document and map identifying core habitat areas for black bears.

Strategies:

- a. Delineate core habitat areas for black bears using regional staff expertise.
- b. Expand habitat preference results from 2001 black bear study final report to entire state.
Action: Ongoing. Capital Peak Bear Damage project is underway with 9 bears being monitored.
- c. Work cooperatively with state, federal, tribal, and private entities to develop relative habitat use probability model for black bears.

COUGAR

Objective 97

Manage cougar populations within each CMU as indicated in Table 1.

Strategy:

- a. For each CMU, implement a female harvest guideline that corresponds to a stable and sustainable cougar population, or a reduced and sustainable cougar population, depending

on the objective.

Completed: Female harvest guideline established for each CMU.

Objective 98

For each CMU, monitor population demographics of cougar at a level where a significant change in population size can be detected within three years or less.

Strategies:

- a. To ensure population sustainability, mark and monitor cougars in CMUs where the objective is to reduce the cougar population.
Completed: Cougar marked and monitored in Okanogan, Ferry and Stevens counties to monitor population status.
- b. Estimate cougar population size using data from marked cougar, capture-recapture experiments, and population modeling.
Completed: Cougar DNA capture-recapture experiment implemented in northeastern Washington.
- c. Develop inventory and monitoring protocols for cougar.
Completed: Inventory and monitoring protocols developed for: (1) monitoring female and cub survival and (2) DNA capture-recapture monitoring.
- d. Evaluate the utility of age structure and sex ratio as indicators of relative population size.
Completed: Pros and cons of using sex and age information as indicators for cougars analyzed and published in 2003.
- e. Estimate the impacts of harvest on cougar populations through modeling.
Completed: Impacts of harvest estimated in northeastern WA by cougar research team (internal and external).

Objective 99

Develop a report that describes at least one component of the cougar-ungulate relationship.

Strategies:

- a. Investigate the impacts of changing white-tailed deer availability on cougar.
Completed: WSU study investigating the role of white-tailed deer and cougar population dynamics. Region One Wildlife Program Staff worked closely with WSU researchers on the white-tailed deer/cougar study in “the Wedge”.
- b. Develop statewide models investigating the correlation between deer and elk abundance and cougar population dynamics.

Objective 100

Identify cougar habitats that act as a population source or sink.

Strategies:

- a. Evaluate and map relative prey densities for key CMUs.
- b. Identify key lands where prey numbers and female survival are high.
- c. Evaluate cougar survival rates in areas that appear to be problematic or where population objectives are not being met.

Completed: Cougar survival rate monitored in Okanogan, Ferry, and Stevens counties to assess population status.

- d. Identify priority areas where management changes may be necessary.

Action: Priority area identified in NE Washington and implemented pilot cougar hound hunts to address management needs.

Objective 101

Implement management strategies that are consistent with the biological status of cougars and public attitudes, respectively.

Note: Some of the following strategies correspond to other objectives within the Plan and are noted as such.

Strategies:

- a. Implement a public education program on cougar management and public safety (see objective 103).

Completed: Pilot public education program developed including: 1) Living-with-Wildlife workshops, 2) cougar brochure, 3) cougar phone contacts magnet, and 4) “Be cougar aware” decal.

- b. Provide strategies to mitigate problem cougars that correspond to methods supported by the public (see objective 103 and 105).

Action: Ongoing Project evaluating the efficacy of relocation implemented in 2003.

- c. Focus cougar hunting efforts to those areas and situations that address human safety, protection of pets and livestock, and recovery of listed species (see objective 102).

Completed: Public safety cougar removals implemented annually in areas with human-cougar conflict and new pilot cougar season with dogs proposed in northeastern Washington.

- d. In the annual Status and Trend Report, publish the results of strategies implemented under the population objectives and public safety objectives.

Completed: Cougar hunting participation and harvest levels published in annual status and trend report.

- e. Conduct a public opinion survey of cougar management by 2007.

Objective 102

Provide recreational opportunities to harvest cougars, while at the same time maintaining a sustainable cougar population in each cougar management unit (excluding CMU 2 and 9).

Strategies:

- a. Establish recreational hunting seasons that target the harvest guidelines identified in Table 2.

Completed: Season structure to target harvest guideline implemented in NE Washington.

- b. Update harvest guidelines every three years, corresponding to the three year hunting season package.

Completed: Revised harvest guidelines for northeastern Washington during 2004.

- c. Provide educational materials to all public safety cougar removal participants to minimize interactions with lynx.

Completed: Lynx, bobcat, and cougar ID card provided to all public safety cougar removal participants and pilot cougar hunt participants.

Objective 103

Minimize cougar-human interactions to fewer than 11 confirmed complaints annually in each Game Management Unit (GMU).

Strategies:

- a. Conduct “Living with Wildlife” workshops annually.
Action: Workshops discontinued because not effective at reaching sufficient number of people
- b. Distribute educational materials to key entities and locations.
Completed: Pilot public education program developed including: 1) Carnivore education truck and presentation, 2) cougar brochure, 3) cougar phone contacts magnet, and 4) “Be cougar aware” decal.
- c. Consistent with Agency policy, consider capture-relocation as a tool for managing problem cougar (see Research strategies).
Action: Ongoing project evaluating the efficacy of relocation implemented in 2003.
- d. Encourage recreational cougar harvest in areas with demonstrated human-cougar interactions.
Completed: Public safety cougar removals implemented annually in areas with human-cougar conflict and new pilot cougar season with dogs proposed in northeastern Washington.
- e. Utilize agency kill authority and depredation permits for problem cougar incidents.
Action: On-going agency kill authority and depredation permits used on a as need basis.
- f. Conduct public safety cougar removals in GMUs with demonstrated history of human-cougar interactions.
Completed: Public safety cougar removals implemented annually in areas with human-cougar conflict.

Objective 104

Account for all human related cougar mortalities.

Strategies:

- a. Require mandatory carcass check of all harvested cougar.*
Completed: Cougar hunters are required to have the carcass checked by WDFW on all harvest cougar.
- b. Mark all harvested cougar with a unique pelt identification tag.*
Completed: All harvested cougar are tagged with a unique seal.
- c. Collect biological information from all harvested cougar.*
Completed: Biological data are collected from all harvested cougar (tooth, sex, etc) and starting 2007 DNA collected from all harvested cougar.

* These strategies currently are implemented.

Objective 105

Develop a report that describes the demographic and behavioral differences between cougar populations in suburban versus rural environments.

Strategies:

- a. Initiate a cougar research project investigating cougar behavior and populations in rural and suburban environments.
Completed: Initiated Project CAT comparing cougar populations in Cle Elum and King County.
- b. Evaluate the efficacy of capture-relocation of problem cougars for mitigating conflict.
Action: On-going project evaluating the efficacy of relocation implemented in 2003.
- c. Investigate the role of corridor design for facilitating or discouraging cougar movements.
Completed: Completed agency publication documenting cougar corridors use trail cameras and track detection methods.

Objective 106

Develop a map identifying core habitat areas for cougar.

Strategies:

- a. Conduct literature review on cougar habitat requirements.
- b. Identify distributions of important prey species.
- c. Develop a model identifying relative habitat suitability for cougar.
- d. Incorporate data from past and current studies.
- e. Identify habitats secured for prey species that also benefit cougar populations.

WATERFOWL

Objective 107

Quantify and reduce habitat loss to achieve Joint Venture objectives.

Strategies:

- a. Update or develop habitat management guidelines and map recent habitat losses by 2008.
- b. Provide resource information to other agencies and organizations to influence land use decisions.
- c. In cooperation with other agencies, track critical habitat status and trends (e.g., freshwater wetlands).
Action: All of these strategies are ongoing.

Objective 108

Provide funding through state migratory bird stamp/print revenues and the Washington Wildlife and Recreation Program to protect/enhance 1000 acres of new habitat annually for all migratory birds. This acreage target was selected based on past annual accomplishments of the migratory bird stamp/print program.

Strategies:

- a. Determine habitat protection and enhancement needs considering Joint Venture plans, literature, and regional expertise.
Action: Ongoing
- b. Solicit project proposals from regional staff and external organizations.
Action: Biennial expenditure plans were developed.
- c. Develop a stamp/print expenditure plan before the start of each new biennium, using an evaluation team from a statewide cross-section of Department experts.
Action: Biennial expenditure plans were developed.
- d. Provide emphasis on projects to increase waterfowl recruitment in eastern Washington, wintering habitat and access in western Washington.
Action: Biennial expenditure plans emphasized these priorities.
- e. When allocating migratory bird stamp funds, consider fund allocation goals presented to the Legislature when the program was established:
 1. Habitat acquisition 48%
 2. Enhancement of wildlife areas 25%
 3. Project administration 18%
 4. Food plots on private lands 9%**Action:** Biennial expenditure plans emphasized these priorities.
- f. Monitor effectiveness of habitat projects through focused evaluation projects before and after implementation.
Action: Habitat enhancement and acquisition projects are regularly monitored by Wildlife Area Staff. Strategy accomplished with review and support of Migratory Waterfowl Art Committee and Waterfowl Advisory Group.

Objective 109

Interact with other agencies and organizations to leverage migratory bird stamp funding by at least 100% annually. This percentage target was selected based on past annual accomplishments of the migratory bird stamp/print program.

Strategies:

- a. Participate in organizations designed to deliver habitat improvements via multi-organization partnerships (e.g., Pacific Coast Joint Venture, Intermountain West Joint Venture).
Action: Actively participated in these partnerships.
- b. Seek outside funding sources to leverage state revenues, through habitat improvement grants (e.g., National Coast Wetlands Grant, North American Wetlands Conservation Act).
Action: Solicited and facilitated development of project ideas and partnerships for these funding sources. Regional biologists have increased coordination with Ducks Unlimited to leverage state funds. For example, funds have been leveraged to acquire Audubon Lake in Lincoln County and improve Telford and Swanson Lakes.

Objective 110

Manage waterfowl populations consistent with population objectives outlined in Table 1, developed considering NAWMP, Pacific Flyway Council, and Joint Venture plans.

Strategies:

- a. Monitor annual status and trends of waterfowl populations through coordinated surveys with other agencies, including USFWS, flyway states, and Puget Sound Action Team (PSAT).
Action: Ongoing
- b. Work with other agencies to improve estimates of waterfowl in other areas of the flyway important to Washington, by 2004.
Action: Assisted in the development of operational British Columbia breeding and wintering duck surveys during the reporting period.
- c. Provide ongoing training for new observers in waterfowl population estimation techniques.
Action: Ongoing on an individual basis.
- d. Evaluate surveys to optimize accuracy and precision, including review of current literature and peer review, by 2004.
Action: Ongoing, breeding population surveys evaluated for accuracy and precision.

Objective 111

Maintain regional populations in accordance with Joint Venture population objectives.

Strategies:

- a. Evaluate needs for modifying waterfowl distribution in major concentration areas every five years.
Action: A review of waterfowl distribution and abundance trends was completed for the Columbia Basin.
- b. Evaluate needs for game reserves and closure areas near other habitat components every five years.
Action: Ongoing annually.
- c. Annually publish results in game status reports.
Action: Ongoing

Objective 112

Document distribution, movements, and survival in accordance with flyway management goals.

Strategies:

- a. Band a minimum of 500 mallards each year to provide survival estimates.
Action: Ongoing, met quotas in several years of the reporting period.
- b. Participate in annual dusky Canada goose banding and observation programs to estimate distribution, survival, abundance, and derivation of harvest.
Action: Ongoing
- c. Conduct focused banding emphasis on select species (e.g., harlequins-2008, seaducks-2002, lesser Canada geese-2003, dark Canada geese-ongoing, and western Canada geese-

annually).

Action: Seaduck, western Canada goose, and dark Canada goose banding was accomplished during the reporting period. Completed marking project to locate potential lead poisoning sources for Trumpeter Swans.

Objective 113

Minimize mortality due to disease and contaminants.

Strategies:

- a. Conduct surveillance monitoring to identify sources of disease and contaminants associated with mortality events (e.g., lead shot mortalities of swans in Whatcom County).
Action: Initiated in 2003-04 hunting season and project coordination transferred to University of Washington beginning in 2004-05.
- b. In cooperation with other management agencies, (e.g., National Wildlife Health Research Center, USFWS) take corrective action to minimize exposure to disease and contaminant sources.
Action: Ongoing, extensive avian influenza surveillance project completed in 2006-07 and 2007-08 as part of North American monitoring strategy.

Objective 114

Increase accuracy of surveys to measure harvest, number of hunters, and effort, accurate to $\pm 10\%$ at the 90% CI for each management unit.

Strategies:

- a. Participate in federal Harvest Information Program (HIP) for migratory birds.
Action: Ongoing.
- b. Provide supplemental estimates to determine regional differences in harvest (e.g., hunter questionnaire, daily card survey, snow goose harvest reports, brant color composition).
Action: Ongoing, harvest authorization cards for seaducks were implemented in 2004, brant color composition surveyed in 2006-07 as part of avian influenza sampling.

Objective 115

Continue current policies to maximize duck hunting recreation consistent with USFWS Adaptive Harvest Management (AHM) regulation packages, considering duck availability during fall and winter.

Strategies:

- a. Establish regulations to maximize effective season days and bag limits, locating most season days later in the framework period.
Action: Ongoing
- b. Assist in refining USFWS duck harvest management programs to reflect regional population differences (e.g., western mallards) by 2003.
Action: A western mallard modeling report was completed in 2004, ongoing assistance in refining USFWS western mallard models.

- c. Maintain state harvest restrictions, in addition to federal frameworks, on waterfowl species of management concern in Washington (e.g., harlequin ducks, scoters), depending on population status.
Action: Population status and harvest levels were evaluated in 2007-08 and special restrictions proposed to continuation and further evaluation.

Objective 116

Maximize goose hunting recreation consistent with Pacific Flyway Council plans, considering goose availability during fall and winter.

Strategies:

- a. Continue to establish regulations to follow flyway and state harvest thresholds (see Table 1 for current population indexes).
Action: Ongoing
- b. Utilize recreational harvest as the primary method to address depredate / nuisance goose populations above management objectives (e.g., implement Pacific Flyway SW Wash. / NW Oregon Goose Depredation Control Plan).
Action: Ongoing, however check station funding has limited goose hunting opportunity in SW Washington during some years of the reporting period.

Objective 117

Distribute harvest evenly over public hunting areas.

Strategies:

- a. Evaluate needs for modifying waterfowl distribution in one of the six major harvest areas each year.
Action: Interagency Columbia Basin waterfowl planning implemented in 2004.
- b. Evaluate and establish game reserves and waterfowl closures every five years to maximize harvest opportunity.
Action: Individual reserves and closures modified each year during reporting period.
- c. Comprehensive review of Columbia Basin reserves completed.
- d. Develop map of reserves and closures and some measure of harvest or use in surrounding areas by 2005.
Action: Maps of Columbia Basin Reserves completed in GIS format.

Objective 118

Maintain hunter numbers between 35,000-45,000 and recreational use days between 300,000-500,000, consistent with population objectives.

Strategies:

- a. Periodically (e.g., every three years) survey hunter opinion to determine and recommend optimal season structures within biological constraints, to reduce the percentage of hunters who are very dissatisfied with waterfowl hunting to less than 15%.
Action: Participated in development of national duck hunter survey, and evaluated results specific to Washington.

- b. Work with USFWS to simplify hunting regulations and minimize annual hunting regulation changes.
Action: Ongoing, duck seasons mostly unchanged during the reporting period.
- c. To reduce confusion, minimize closed periods within seasons, maximize overlap between duck and goose seasons, and reduce the number of zones with different season structures.
Action: Ongoing, dependent on duck breeding population levels and harvest management models through USFWS. Grays Harbor County removed from restricted goose hunting zone to reduce complexity.
- d. Provide special opportunity for youth by providing special recreational opportunities separate from regular seasons (e.g., youth hunts two weeks before regular season opener).
Action: Ongoing, youth season provided each year of reporting period.
- e. Modify regulations to reduce crowding and increase hunt quality on wildlife areas (e.g., shell limits, limited entry, established blind sites, limited open days), without reducing total use days.
Action: Initiated with a quality hunting area on the Winchester Wasteway of the
- f. Columbia Basin Wildlife Area, and developed plans for Frenchman Hills and Gloyd Seeps.
- g. Utilize habitat funding in combined programs to provide hunter access to private lands with emphasis in western Washington.
Action: Initiated a snow goose quality hunting and cover crop program utilizing duck stamp funds on Fir Island in Skagit County.
- h. Work with local governments to maintain opportunity in traditional hunting areas, minimizing or finding alternatives to no shooting zones.
Action: Established working groups of Penn Cove and Fir Island residents to maintain opportunity and address concerns with traditional hunting seasons.
- i. Maintain diversity of recreational hunting and viewing opportunities.
Action: Maintained special seasons on limited species (e.g. band-tails, brant) to provide diversity of hunting opportunities.

Objective 119

Generate or support at least one publication every year regarding waterfowl research or management.

Strategies:

- a. Support and/or conduct research investigating limiting factors influencing duck recruitment.
Action: Completed duck recruitment research project with Oregon State University and DU in eastern Washington.
- b. Support and/or conduct research-investigating factors related to waterfowl wintering distribution and carrying capacity.
Completed: research on carrying capacity in the Columbia Basin and north Puget Sound areas Ducks Unlimited.
- c. Support and/or conduct research investigating duck survival.
Action: Completed duck survival research with Oregon State University and DU in eastern Washington.
- d. Support and/or conduct research investigating genetic relationships of goose subspecies/populations.

Action: Assisted in obtaining PCJV funds to study genetic relationships among Wrangel Island snow geese.

- e. Support and/or conduct research investigating goose distribution and survival.
Action: Completed dark goose telemetry study to document distribution and movements.
- f. Develop current list of research needs to guide additional research emphasis.
Action: Participated in development of Pacific Flyway plans that list and prioritize research needs for goose populations.

Objective 120

Generate at least five information and education products each year to improve transfer of information to public.

Strategies:

- a. Increase public awareness through brochures, news releases, internet, and pamphlets
Action: Ongoing
- b. Provide materials to assist waterfowl identification in the field by 2003.
Action: Information on availability of the online and paper copies of the Ducks at a Distance brochure was included in the waterfowl pamphlet and included as a link on the WDFW web site, SW Washington goose identification training was upgraded and made available online.
- c. Provide information to improve hunter proficiency by 2003.
Action: Not completed due to lack of funds.
- d. Obtain outside review of hunting pamphlet annually to improve clarity
Action: Pamphlet is now reviewed by Seattle Times staff to improve readability.
- e. Continue to discuss waterfowl population management at public meetings and select sports group forums
Action: Ongoing.
- f. Develop materials describing waterfowl hunting opportunities in Washington by 2004.
Action: Region 2 brochure, waterfowl pamphlet, and GoHunt Internet application developed to include information on waterfowl hunting opportunities.

Objective 121

Ensure a 90% compliance rate for waterfowl hunting regulations (i.e., 90% of hunters checked are in compliance with regulations).

Strategies:

- a. Develop annual enforcement priorities to target regulations affecting population status (e.g., dusky Canada goose reporting requirements) and changes in select species bag limits (e.g., pintail).
Action: Ongoing
- b. Provide adequate training of enforcement officers in waterfowl identification and regulations.
Action: Completed on individual and small group bases.
- c. Conduct emphasis patrols to determine nontoxic shot compliance in Skagit and Whatcom counties.
Action: Initiated patrols during the 2003-04 hunting season.

MOURNING DOVE, BAND-TAILED PIGEON, COOT, AND SNIPE

Objective 122

Quantify and reduce habitat loss by developing habitat maps and management guidelines.

Strategies:

- a. Provide resource information to other agencies and organizations to influence land use decisions (e.g., WDFW Priority Habitats and Species (PHS) management guidelines for band-tails).
Action: Ongoing, provided information to DNR for forest managers.
- b. In cooperation with other agencies, track critical habitat status and trends (e.g., mineral sites, freshwater wetlands) (ongoing).
Action: Ongoing, documented status of mineral sites through USGS research project.

Objective 123

Provide funding through state migratory bird stamp/print revenues to protect/enhance 50 acres of habitat annually for doves, pigeons, coots, and snipe.

Strategies:

- a. Determine habitat protection and enhancement needs considering literature and regional expertise.
Action: Biennial expenditure plans were developed.
- b. Solicit project proposals from regional staff and external organizations.
Action: Biennial expenditure plans were developed
- c. Develop expenditure plan before the start of each new biennium, using an evaluation team from a statewide cross-section of Department experts, to fulfill funding requirements for non-waterfowl migratory birds specified in legislation.
Action: Biennial expenditure plans were developed.
- d. Monitor effectiveness of habitat projects through focused evaluation projects before and after implementation.
Action: Habitat enhancement and acquisition projects are regularly monitored by Wildlife Area Staff. Strategy accomplished with review and support of Migratory Waterfowl Art Committee and Waterfowl Advisory Group.

Objective 124

Meet Pacific Flyway Council goals for mourning doves (15 calls/route in flyway) and band-tailed pigeons (1980-84 call-count index in Washington).

Strategies:

- a. Monitor annual status and trends of doves and band-tailed pigeons through coordinated breeding ground surveys with other agencies, including USFWS and flyway states.

Action: Dove call count surveys and band-tailed mineral site surveys both conducted annually during the reporting period.

- b. Monitor annual status and trends of coots through the midwinter inventory, coordinated with other agencies including USFWS and flyway states.

Action: Ongoing.

- c. Provide training aids for new observers in population estimation techniques, particularly for call-count surveys, by 2004.

Action: Training developed on determining age of doves based on wing plumage.

- d. Participate in focused banding projects to answer specific management questions (e.g., dove reward band study in 2002-2003).

Action: Three year dove reward band study completed, operational dove banding initiated as part of flyway effort to document population trends.

Objective 125

Minimize mortality due to disease and contaminants.

Strategies:

- a. Conduct surveillance-monitoring studies to identify sources of disease and contaminants associated with mortality events.

Action: Ongoing

- b. In cooperation with other management agencies (e.g., National Wildlife Health Research Center), take corrective action to minimize exposure to disease and contaminant sources (e.g., trichomoniasis in band-tailed pigeons) (ongoing).

Action: Ongoing, extensive avian influenza surveillance project completed in 2006-07 and 2007-08 as part of North American monitoring strategy.

Objective 126

Increase accuracy of surveys to measure statewide harvest, number of hunters, and effort, accurate to $\pm 10\%$ at the 90% CI.

Strategies:

- a. Participate in federal Harvest Information Program (HIP) for migratory birds, including new focus on providing estimates for lightly harvested species (e.g., snipe).

Action: Ongoing.

- b. Provide supplemental measures to refine harvest estimates (e.g., band-tailed pigeon harvest report).

Action: Ongoing.

Objective 127

Maximize recreational opportunities consistent with population status.

Strategies:

- a. Establish state harvest regulations for mourning doves in consideration of federal frameworks and population status in Washington.

Action: Ongoing.

- b. Maintain restrictive dove season length until significant increase in 10-year call-count index trend is observed (no significant trend present for 1992-2001 index).
Action: Ongoing.
- c. Maintain opening/closure level for band-tailed pigeons based on 3-year average call-count, in consideration of Pacific Flyway plan population objective.
Action: Index changed to flyway wide mineral site index in 2003, survey redesigned. Determine new opening / closing level during next planning period in conjunction with flyway plan development

Objective 128

Maintain a minimum of 5,000 hunters and current recreational use days between 90,000-110,000, consistent with population status.

Strategies:

- a. Utilize habitat funding in combined programs to provide hunter access to five new private land holdings.
Action: Waterfowl hunter access projects noted above also provide access for coot and snipe hunting.
- b. Work with local governments to maintain opportunity in three traditional hunting areas, minimizing or finding alternatives to no shooting zones.
Action: Public working groups noted above for waterfowl also maintain opportunity and address concerns with traditional hunting seasons for webless species.

Objective 129

Generate at least one information and education product each year to improve transfer of information to public.

Strategies:

- a. Increase public awareness about management issues through brochures, news releases, Internet, pamphlets.
Action: Ongoing
- b. Develop materials describing hunting opportunities for other migratory game birds in Washington.
Action: Not completed due to lack of funds.

Objective 130

Generate or support at least one publication every five years regarding research or management of doves, band-tails, coots, or snipe.

Strategies:

- a. Investigate habitat use around mineral springs.
Action: Completed in 2003.
- b. Investigate optimal survey and timing for band-tailed pigeon trend analysis.
Action: Completed in 2003.
- c. Investigate band-tailed pigeon distribution and survival.
Action: Not completed - forward to next planning period.

- d. Investigate limiting factors affecting mourning dove populations in Washington.
Action: Not completed – forward to next planning period.
- e. Investigate maximum sustainable harvest for mourning doves.
Action: Not completed - forward to next planning period.
- f. Investigate snipe habitat use, survival, effects of harvest, and incidental take of other species.
Action: Not completed - forward to next planning period.
- g. Develop current list of research needs to guide additional research emphasis.
Action: Not completed - forward to next planning period.

WILD TURKEY

Objective 131

Develop a population management plan by December 2003.

Strategies:

- a. Develop criteria for evaluating past wild turkey releases.
- b. Evaluate past translocations within each WDFW region on a district-by-district basis.
- c. Evaluate reintroduction focus area criteria and make modifications to primary wild turkey population areas as necessary.
- d. Develop criteria that help identify areas where turkey populations are not desired (e.g., environmentally sensitive, urbanized, and depredation or nuisance areas).
- e. Conduct an assessment of potential release areas for habitat suitability, potential negative impacts, as well as public and agency support.
- f. Restrict release of turkeys into unoccupied areas until a population management plan is completed.
- g. Develop a population management plan.
Action: Strategies were used to develop the Wild Turkey Management Plan, which was adopted in November 2005.

Objective 132

Develop a damage response plan by December 2003.

Strategies:

- a. Document locations of complaints.
- b. Evaluate WDFW responses to past complaints.
- c. Determine major factors relating to damage complaints.
- d. Develop a plan that addresses major factors and incorporates multiple methods of addressing the issues. Possible methods may include, but are not limited to, liberalized hunting seasons, deterrent activities, habitat enhancements, removal through trapping, and depredation permits.
Action: All strategies were implemented and a response plan was developed and included in the Wild Turkey Management Plan (Appendix 1).

Objective 133

Monitor turkey populations in primary management zones of the state on a yearly basis.

Strategies:

- a. Identify areas within the state that have population monitoring needs.
Action: Northeastern Washington was identified as the primary location for population monitoring. Additional areas (e.g., Klickitat, Okanogan, and Chelan counties and the Blue Mountains) will be evaluated and added over time.
- b. Evaluate potential monitoring tools and develop a recommended monitoring protocol.
Action: District 1 Wildlife Biologists have worked closely with Upland Game Section Manager and local chapter of NWTF to develop a monitoring protocol.
- c. Implement a recommended turkey population monitoring protocol.
Action: Strategies were implemented and a recommended population monitoring protocol was included in the Wild Turkey Management Plan (Appendix 2). A pilot-monitoring project began in the winter of 2005. Up to 10 transects have been run on county roads in Northeast Washington with District 1 Wildlife Biologists and local NWTF volunteers.

Objective 134

By December 2003, develop a fall hunting opportunity recommendation for Fish and Wildlife Commission consideration.

Strategies:

- a. Define population indexes for turkey populations.
Action: Currently, estimated harvest is used as an index to population status. The goal for northeastern Washington is to decrease overall population to a level where nuisance and damage complaints are reduced.
- b. Evaluate the potential impacts of season options (including open season, increased season length, and increased permits).
Action: Fall season recommendations were made to the Commission. Originally, fall, either sex permit numbers were increased in northeastern WA over 300%. That was followed by recommendation of a general fall either sex season in northeastern Washington GMUs to address turkey damage and nuisance issues. In addition, a late fall (November 20 – December 15) either sex season was recommended and implemented for northeastern Washington in 2006.

Objective 135

By December 2002, determine if a turkey transport tag should be included with the purchase of a small game license.

Strategies:

- a. Survey and/or discuss the subject with hunters and hunting groups to determine their position.
- b. Evaluate what impacts including or not including the tag may have on recreational opportunity.
- c. Develop a recommendation by 2003.
Action (Strategies a-c): Turkey hunters were surveyed. Responses were split with 57%

not wanting to purchase a turkey tag separate from the small game license. As part of a revenue enhancement package, separation was recommended to the legislature. The legislature approved separation of the tag during the 2006 legislative session. The legislation did the following:

- 1) placed the cost of the first tag at \$14 (free for youth and persons of disability),
- 2) reduced the fee for subsequent tags from \$18 to \$14, and
- 3) dedicated the revenue 1/3 to turkey management, 1/3 to upland bird management, and 1/3 to the Wildlife Fund.

Objective 136

Over the next five years, increase the number of acres of private land available for public turkey hunting by 10% within priority turkey range.

Strategies:

- a. Identify the priority turkey range.
Action: Strategy (a) was completed (see Wild Turkey Management Plan).
- b. Increase public access to private lands through the efforts of WDFW's Upland Restoration Program.
Action: In progress but are being limited by funding availability.
- c. Investigate paying private entities for public hunting access to private property (e.g., block management, landowner incentives).
Action: In progress but are being limited by funding availability.

Objective 137

By April 2005, develop a set of criteria that, when met, would direct a change in season structure or hunting opportunity.

Strategies:

- a. Continue to collect harvest information via mandatory reporting.
Action: Is being implemented. Improvements in reporting compliance are expected due to implementation of a legislatively-passed (\$10).
- b. Define turkey population indexes for the different areas of the state.
Action: Beginning implementation with the development of a monitoring protocol (see Wild Turkey Management Plan).
- c. Develop and/or implement a method of monitoring turkey populations and harvest that includes triggers for adaptive management.
Action: Winter flock counts have been conducted using the monitoring protocol identified in the Turkey Management Plan. These flock counts may be used as a harvest-independent population monitoring method. Triggers for adaptive management still need to be developed.

Objective 138

Enhance wild turkey habitat within the primary turkey management zone.

Strategies:

- a. Utilize available enhancement grants (e.g., Guzzlers for Gobblers) to improve habitats utilized by wild turkeys.
Action: Four grants have been awarded to WDFW or volunteers for habitat improvement projects in eastern Washington. Projects have focused on riparian protection and water enhancement.
- b. Facilitate habitat enhancement projects on private and public properties within the primary turkey management zone.
Action: The Department has begun discussions with the National Wild Turkey Federation to integrate potential oak/pine habitat improvements in central Washington with their "Operation Oak" program.
- c. Develop habitat enhancement projects to help address issues related to winter nuisance complaints.
Action: Initial planning to identify potential improvements has begun. Additional action is being limited by available staff time.

Objective 139

Create educational pamphlets and news releases describing past management activities and future management objectives on a yearly basis.

Strategies:

- a. Produce a publication that provides information about non-native wildlife and inter-specific competition issues related to turkeys in Washington.
Action: A draft "Wild Turkeys In Washington" brochure has been developed. When completed, It will address strategies a, b, and e.
- b. Create a wild turkey pamphlet that describes past and future WDFW management activities and watchable wildlife opportunities.
Action: A draft "Wild Turkeys In Washington" brochure has been developed. When completed, It will address strategies a, b, and e.
- c. Produce timely news releases that cover substantial new management activities.
Action: News releases related to season changes, raffle drawing dates, and general hunting opportunities have been created, provided to medial outlets, and posted to the WDFW website.
- d. Create an informational web page that addresses common concerns or interests surrounding wild turkeys.
Action: The WDFW web site will be re-designed in 2008 and additional turkey biology, management, and recreational information will be provided.
- e. Develop a pamphlet or flyer that addresses the potential negative effects of feeding turkeys and guidelines describing how to avoid negative turkey interactions.
Action: A draft "Wild Turkeys In Washington" brochure has been developed. When completed, it will address strategies a, b, and e.

Objective 140

Initiate, participate in, or support research projects that increase our knowledge of wild turkeys in western habitats.

Strategies:

- a. Conduct a literature review of western U.S. wild turkey research.
Action: Implemented in the development of the Wild Turkey Management Plan.
- b. Identify and prioritize research needs.
Action: Implemented in the development of the Wild Turkey Management Plan.
- c. Cooperate with public and private entities (e.g., National Wild Turkey Federation) to develop research projects in Washington.
Action: The Department has committed to working with the Oregon Department of Fish and Wildlife and Oregon State University on a bi-state food habits study of western US turkey populations. The research proposal was presented to the National Wild Turkey Federation and will be considered for funding.
- d. Develop and/or participate in inter-specific competition research projects funded through the National Wild Turkey Federation and other public entities.
No Action: To date, opportunities have not been available.
- e. Should research definitively show competition with native and or listed species, then plans to address the issues will be developed and implemented.
No Action: No action is needed at this time.

Objective 141

Concentrate efforts on illegal harvest, public education, and landowner relations during appropriate times of the year.

Strategies:

- a. Increase enforcement patrols in areas where turkey hunters are concentrated.
Action: Areas of anticipated high turkey hunter density are identified annually and requests for increased enforcement presence are made.
- b. Work with landowners to address their concerns/needs.
Action: WDFW staff responds to telephone calls and other contacts from landowners experiencing wintertime nuisance and damage issues. Additionally, Landowners who are in access agreements with the Department are contacted multiple times per year by private lands biologists and additionally by enforcement officers as warranted. Staff works with landowners to provide access control signs and technical advice.

MOUNTAIN QUAIL

Objective 142

Determine distribution of potential mountain quail habitat in Washington and conduct an evaluation of key areas of native range by 2008.

Strategies:

- a. Develop a map showing potential mountain quail habitat.
Action: A statewide map has not been developed, however, habitat surveys completed as part of the reintroduction effort will help create a map showing potential mountain quail habitat statewide.
- b. Evaluate potential habitat areas in southeastern Washington to determine the most appropriate areas for reintroduction efforts.
Action: A cooperative project with the University of Idaho was completed with an

analysis of three potential reintroduction areas in southeastern Washington. According to habitat surveys, all three areas have potential for a successful reintroduction. Completed before the initiation of the reintroduction project that began in 2004 (see Objective 143).

- c. Conduct an evaluation of eastern Washington mountain quail habitat conditions and suitability based on results from monitoring released quail. Identify potential habitat enhancement projects based on the evaluation.

Action: WDFW is working in cooperation with the University of Idaho, Idaho Fish and Game and Oregon Department of Fish and Wildlife on a mountain quail reintroduction project in southeastern Washington and western Idaho. The project began in the winter of 2004/spring of 2005. Habitat modifications are identified as one of the outcomes of the reintroduction project that started in 2004 (see Objective 143).

Objective 143

Re-establish mountain quail populations in historic range in eastern Washington by 2006.

Strategies:

- a. Secure funding for a reintroduction project.
Action: Much of the funding related to the Washington portion of the project is being provided by federal grants (e.g., Pittman Robertson and State Wildlife Grant).
- b. Enter into a cooperative project with Oregon and Idaho designed to address mountain quail reintroduction in southeastern Washington, northern Oregon and western Idaho.
Action: WDFW is currently working with the University of Idaho, Idaho Fish and Game and Oregon Department of Fish and Wildlife on a mountain quail reintroduction project in southeastern Washington and western Idaho.
- c. Support and/or conduct trapping of wild mountain quail in Oregon and release into identified areas of southeastern Washington.
Action: The reintroduction project has utilized wild-trapped mountain quail from southwestern Oregon. This source is similar to that used for recent successful reintroductions in eastern Oregon.
- d. Implement a post-release monitoring program for quail as part of reintroduction efforts.
Action: University of Idaho graduate student has been leading post-release monitoring activities in consultation with WDFW since March 2005. Annual mortality has been high, but monitoring efforts have documented natural reproduction within the release area.
- e. Evaluate the need to close California quail hunting seasons in areas targeted for reintroduction.
Action: At this time, hunting season for California quail will remain open, however, efforts to educate the public through posting signs about the mountain quail project are being implemented.

Objective 144

By 2007, determine what proportion of the reported western Washington quail harvest is mountain quail.

Strategies:

- a. Develop a wing collection survey to estimate mountain quail harvest in western Washington.
No Action.

- b. Develop a telephone survey to sub-sample quail hunters who report harvest in counties supporting mountain quail populations.
No Action.
- c. Recommend requiring mountain quail hunters to possess an authorization permit and report harvest annually.
Action: Using the 3-year hunting season package public process, the Department investigated the possibility of requiring an authorization card for reporting mountain quail harvest in western Washington, but did not recommend action to the commission due to logistic and budgetary issues.

Objective 145

Maintain a limited hunting season for mountain quail in western Washington unless harvest declines by greater than 30% over 3 years.

Strategy:

- a. Recommend the use of a mandatory mountain quail harvest report and authorization card to maximize accuracy of harvest estimates.
Action: The Department investigated the possibility of requiring an authorization card for reporting mountain quail harvest in western Washington, but did not recommend action to the commission due to logistic and budgetary issues.

FOREST GROUSE

Objective 146

Develop one additional habitat management publication by 2008.

Strategies:

- a. Review forest grouse literature concerning forest management techniques.
No Action.
- b. Update existing or create additional forest grouse habitat management guidelines.
No Action.
- c. Make guidelines available to forest landowners and encourage them to incorporate management practices that benefit forest grouse.
No Action.

Objective 147

Improve harvest estimation to detect a 50% decline over a 3-year period at the WDFW regional level.

Strategies:

- a. Analyze harvest report data to include estimation at the WDFW regional level.
Action: Annual grouse harvest is reported on a county level; however, additional work is needed to improve the accuracy and precision.
- b. Develop a statistical model of harvest that includes the effects of weather and hunter effort.
No Action.

- c. Investigate the potential to report grouse harvest on the WDFW website and implement if appropriate.
No Action.

Objective 148

When harvest estimates at the WDFW regional level show a decline of 50% over a 3-year period, focus management efforts on determining the causes for decline.

Strategies:

- a. Determine whether large-scale habitat changes have occurred in areas of concern.
No Action.
- b. Determine if changes in forest grouse habitat and populations correlate with changes in timber management practices.
No Action.

Objective 149

Track forest grouse populations in key areas of Washington and report the results in the annual Game Status and Trend Report.

Strategies:

- a. Identify key areas for monitoring populations.
Action: Okanogan, Stevens, and Grays Harbor counties are key grouse hunting areas and should be best suited to implement targeted monitoring programs.
- b. Develop and/or implement a method to track population trends independent of harvest and compare the trends to trends in harvest estimation.
Action: Grouse wing collection continues in Okanogan and Stevens counties as part of an on-going attempt to document grouse species, sex, and age distribution in the harvest.

Objective 150

Develop a recommendation for the Commission regarding regulating legal firearms and ammunition for forest grouse hunting by December 2003.

Strategies:

- a. Determine level of hunter support for greater firearm or ammunition restrictions and evaluate the rationale behind their opinion.
- b. Work with hunters to develop firearm and ammunition use alternatives.
Action (Strategies a and b): Both strategies completed - This topic was discussed during the development of 2003-05 hunting regulations and the recommendation to the Commission was to not regulate firearm use beyond current regulations.

Objective 151

Develop a method to identify harvest of forest grouse species and report findings in the annual Game Status Report by 2008.

Strategies:

- a. Develop a species distribution map.
No Action.
- b. Use wing collection data to create a correction factor to adjust hunter species composition reports.
No Action.
- c. Develop and distribute educational materials that identify the differences between forest grouse species.
No Action.

Objective 152

Develop a report on hunting season impacts on grouse populations by 2008.

Strategy:

- a. Conduct a literature review targeting grouse hunting season impacts on forest grouse populations and assimilate results into a report with recommended management actions if appropriate.
No Action.

UPLAND GAME BIRDS

Pheasant (*Phasianus colchicus*), California Quail, (*Callipepla californica*), Chukar (*Alectoris chukar*), Hungarian Partridge (*Perdix perdix*)

Objective 153

By 2008, increase the quantity and quality of pheasant habitat in select WDFW districts within identified key pheasant management areas.

Strategies:

- a. Inventory current pheasant habitat and identify and prioritize key areas for improvement.
Action: The PFP program was initiated in southeastern WA in an attempt to address this objective; expert opinion, both internal and external, have pointed to the lack of good brood habitat as a key factor; habitat improvements in the focus area will look to improve brood habitat.
- b. Define quality pheasant habitat.
Action: WDFW held a pheasant management workshop in 2003 that resulted in recommendations for improved pheasant habitat management. A key recommendation resulting from the workshop was development of adequate pheasant “production cover” (i.e., nesting, brood rearing and escape cover) in priority areas (WDFW identified southeastern Washington with over 14 inches of annual rainfall).
- c. Develop specific strategies for enhancing pheasant habitat.
Action: Developed the Partnerships for Pheasants (PFP) program as a specific strategy to improve pheasant habitat in the focus area. Utilizing Eastern Washington Pheasant Enhancement Program funding to enhance pheasant habitat on lands enrolled in the PFP program. Prioritized PFP proposals by ranking those that integrated pheasant habitat improvements with Conservation Reserve Enhancement Program (CREP) improvements aimed at improving riparian habitat for salmon. In addition, WDFW is working closely

with the Natural Resource Conservation Service (NRCS) and the Farm Service Agency (FSA) to improve federal farm bill programs for pheasant and other wildlife species.

- d. Purchase high priority pheasant habitat acreage using funds from the sale of western Washington land holdings identified for that purpose.
Action: While lands have not been purchased to date, WDFW is working to identify potential sites. One site in Walla Walla County has been identified and WDFW has applied for additional funding sources to help purchase the property or a permanent conservation easement.
- e. Work with public and private landowners and funding agencies (e.g. United States Department of Agriculture (USDA)) to increase quality pheasant habitat acreage through programs like the Conservation Reserve Program (CRP), and the Wildlife Habitat Incentives Program (WHIP).
Action: WDFW continues to work with the NRCS and FSA to improve farm bill program practices so they result in more valuable pheasant habitat. Examples of improvements are integration of forb strips in CRP fields and incorporation of wildlife habitat into circle corners in areas with irrigated agriculture.
- f. Improve pheasant habitat quality by funding habitat improvement projects through the Eastern Washington Pheasant Enhancement Program (EWPEP).
Action: Four pheasant habitat improvement projects have been funded in Grant and Franklin counties. In addition, funding from EWPEP has been used as a key piece of the PFP program by providing seed to private landowners who have signed up to produce brood habitat on their lands. Twelve Partnerships for Pheasants projects are in place in Southeast Washington, providing over 800 acres of improved habitat and hunting access to over 6,000 acres. Additional projects will be developed during 2007.
- g. Integrate pheasant habitat improvements and priorities with native species needs (e.g. sharp-tailed grouse and salmon).
Action: The PFP program criteria place a high value on integrating pheasant brood habitat improvements with the federal Conservation Reserve Enhancement Program (CREP), which has anadromous fish as a priority target. Several of the existing PFP contracts have both CREP and PFP enhancements. Future PFP contracts will also partner with CREP.

Objective 154

By 2006, develop a report that evaluates past upland habitat program involvement and identifies those that are most effective.

Strategies:

- a. Evaluate the impacts of USDA programs and develop recommendations on how to best support these programs in Washington.
Action: Farm Bill programs like CRP, CREP, and WHIP have been identified as having the most potential to impact pheasant habitat on a landscape level. Investigations show that the best way to support these programs is to work directly with FSA and the NRCS to increase the amount of forbs in specific practices and to help private landowners pay for the non-federal cost share requirement found in most programs.
- b. Evaluate past acquisitions for their contribution to pheasant population densities.
No Action.
- c. Support or conduct a thorough literature review and/or study to help determine the value of guzzlers to upland game species.
No Action.

Objective 155

Monitor population status and trend within the key areas identified for habitat improvement and document results in the annual Game Status Report by 2006.

Strategies:

- a. Develop and/or adopt a standardized method to monitor pheasant population status.
Action: Currently, harvest estimates at the county level are used to monitor pheasant population status. Additional methods may be used in the future.
- b. Consistently monitor pheasant populations to provide a gauge of how habitat improvements are affecting population trends.
Action: Harvest estimates have been grouped by major river basin (i.e., Columbia, Snake, Yakima) and are being used as a population index. Current trends show the Snake River basin to be the best pheasant producing area and it is also the area where CRP is used the most.

Objective 156

By 2008, increase the number of acres of private land available for hunting by 10% and provide a variety of hunting opportunities within the areas identified as priorities.

Strategies:

- a. Utilize the WDFW Upland Restoration Program to increase public access to private lands.
Action: Entered into landowner agreements to enhance cover for pheasant hunting on almost 600 acres of private lands on Whidbey Island. Also entered into Partnerships for Pheasants agreements with private landowners in the pheasant focus area (Whitman, Walla Walla, Columbia, and Garfield counties), which include over 6,000 acres of public hunting.
- b. Investigate paying private entities for public hunting access to private property (e.g., block management).
Action: Surveys show that a majority of landowners (up to 67%) would support receiving a payment in exchange for allowing public access. Surveys also show that up to 78% of hunters support WDFW leasing hunting access. However, current Department revenue resources are not adequate to develop a large-scale “pay for access” program.
- c. Investigate alternatives to replace the loss of access to Snake River mitigation properties.
Action: The Partnerships for Pheasants program has been identified as one option to help retain some Snake River mitigation properties. The first PFP sign-up resulted in retention of over 1,000 acres of Snake River mitigation property.
- d. Publicize where public hunting access is available.
Action: The Department developed GoHunt, an internet-based mapping project that provides the public with many different hunting-oriented mapping features including game management unit maps, private lands hunting opportunities, state owned lands (including wildlife area boundaries), topographic maps, and aerial photos.
- e. Develop limited entry areas, marked sites, walk-in sites, or other restrictions to reduce crowding and provide quality-hunting areas.
Action: Some PFP lands have limits on the number of hunters accessing the property at any one time (limited parking availability), which should create some quality hunting opportunities. In addition, the Department is developing a broader “Quality Hunting Program” for waterfowl and upland birds that will include additional opportunities.

Objective 157

Monitor upland game bird harvest on a yearly basis.

Strategies:

- a. Continue to collect harvest information on a yearly basis such that it is comparable to previous seasons.
Action: Ongoing
- b. Evaluate harvest data to estimate trends in population status.
Action: Ongoing. Harvest and hunter participation estimates continue to be made and trends evaluated.
- c. Develop a method to collect eastern Washington pheasant release harvest data (e.g., an additional box on the hunter questionnaire) by 2004.
No Action: While action has not been taken at the time of this review, this is planned for the 2007 hunter harvest questionnaire.

Objective 158

Provide educational materials to hunters that describe the differences between upland game species and non-game upland birds.

Strategies:

- a. Include information describing the differences between pheasants and sharp-tailed grouse and sage grouse and include it in the annual upland bird-hunting pamphlet.
Completed: This is included in the migratory bird and upland game pamphlet.
- b. Post signs notifying hunters of sage or sharp-tailed grouse being present in areas where upland game bird hunting occurs
Action: Ongoing - Staff in areas with sharp-tailed grouse have placed and maintain educational signs in appropriate places.

Objective 159

Provide information to the public on a yearly basis that increases the public's understanding of upland game bird management in Washington.

Strategies:

- a. Produce timely news releases when substantial developments in upland game bird management occur with an emphasis on youth hunting opportunities.
Action: News releases announcing appropriate youth hunting seasons have been made annually.
- b. Produce pamphlets or other informational material that addresses upland game bird biology, emphasizing the impact of weather on annual population density.
No Action: No pamphlets have been made to date; however, additional website information is planned for 2008.
- c. Enter into cooperative educational ventures with resource-oriented groups such as Pheasants Forever.
No Action.

- d. Produce news releases and/or pamphlets that explain the potential impacts of lead shot on Washington's wildlife.

Action: In 2001 the Department has produced a document discussing the impacts of lead shot on wildlife (<http://wdfw.wa.gov/wlm/game/water/nontoxicshotfinal.pdf>). Additional discussions about non-toxic shot have been held at Fish and Wildlife Commission meetings. New pamphlets explaining potential impacts have not been created.

Objective 160

By 2008, develop a report that identifies the factors limiting pheasant populations in Washington and provides management recommendations.

Strategies:

- a. Conduct a literature review to identify potential factors and related research needs.
No Action.
- b. Conduct studies that identify factors that are limiting pheasant populations in eastern Washington if needed.
No Action.
- c. Compare brood count/crow count data with population decline and habitat change data.
No Action.

Objective 161

Evaluate the effects of noxious weeds on chukar and Hun habitat and help develop and implement noxious weed control efforts in high priority areas.

Strategies:

- a. Support and/or conduct activities that document habitat distribution and current noxious weed distribution for high priority chukar and Hun areas.
No Action.
- b. Complete a report that provides weed management recommendations for high priority upland bird areas.
No Action.
- c. Participate in activities that identify and secure additional funding to aid in noxious weed control in high priority chukar and Hun areas.
No Action.

Objective 162

Evaluate the EWPEP and develop recommendations for any needed changes for legislative action in 2003.

Strategies:

- a. Review and analyze past EWPEP funded pheasant releases and develop a summary document that evaluates the success of the program and provides recommendations for future action.

Action: Pheasant harvest estimates have been compared to pheasant release data. This evaluation did not show a correlation between the number of pheasants released and the number of pheasants harvested between 1997 and 2005.

- b. Work with conservation organizations, such as Pheasants Forever, to develop recommendations.
Action: Surveys indicate that hunters would like to see the Department spend more money on habitat enhancement programs and less on releasing pheasants. Additionally, recommendations from the Upland Game Advisory Group (a volunteer group of upland game enthusiasts, including members of Pheasants Forever, appointed to an advisory committee by the Director of WDFW) suggest a similar sentiment.
- c. Focus habitat enhancements in identified key management areas.
Action: Implemented strategy by focusing funding in the pheasant focus area in SE Washington (Whitman, Walla Walla, Columbia, and Garfield counties).

Objective 163

Evaluate the current funding mechanism for the western Washington pheasant program and identify new ways to create a self-funded budget by June 2003.

Strategies:

- a. Work with hunting public to determine the best way to increase revenue.
Action: This item has been a topic of discussion at the yearly western Washington pheasant volunteers meeting. The main strategy discussed has been to create a western Washington pheasant license that will replace the need to purchase punch cards. With an increased cost, this license might provide 100% funding for the program. In addition, the Department established the Upland Game Advisory Committee to help identify long term funding strategies.
- b. Determine what percentage of small game license buyers hunts strictly western Washington pheasants.
Action: A survey indicated that up to 61% of western Washington pheasant hunters hunted other small game species (including waterfowl) in addition to west-side pheasants.
- c. Identify cost saving efficiencies in pheasant production.
Action: Brood rearing facilities at the game farm were antiquated (built in the 1940's) and were identified for replacement. The Department improved facility infrastructure by eliminating 40 low-efficiency, old brood houses and replaced them with a modern brood barn. These improvements will increase efficiency and will ultimately be more cost-effective.

Objective 164

Develop and implement a plan to reduce hunter crowding by 2004.

Strategies:

- a. Identify and secure access to additional pheasant release sites.
Action: An additional release site was identified in Pacific County. A new, larger release site has been identified in the Kitsap/Mason County area to replace the Belfair site in 2007. Actions are planned for 2007 to identify release sites in northern Lewis County and Thurston County.
- b. Evaluate need for even/odd regulation at additional release sites.
Action: Hunter crowding was discussed during Upland Game Advisory Committee meetings and no recommendations for additional even/odd sites were given.
- c. Coordinate with western Washington pheasant program volunteers to develop crowd reduction recommendations.

Action: In a survey of western Washington volunteers, the following recommendations were made: 1) find additional release sites, 2) provide a better eastern Washington hunting opportunity, 3) reduce the number of birds released on a site, 4) Internet registration for popular sites, 4) continue to utilize the even/odd system.

Objective 165

Develop a more effective method to appropriately allocate pheasants to pheasant release sites by September 2003.

Strategies:

- a. Visit release sites and document hunter use on high participation weekends.
Action: Implemented a car count survey at all release sites on the same day. This survey is completed 2 to 3 times per year.
- b. Integrate landowners supporting a release site into the decision making process.
Action: The Upland Game Advisory Committee developed an allocation formula to guide allocation. The formula includes data collected from Car Count Surveys, the size of the release site, and the population of license buyers who live within 40 miles of a release site. Additional data is being collected by asking about anticipated hunting activity (location) when purchasing a license and tag. This data may be incorporated into the allocation formula.

Objective 166

Determine if non-toxic shot should be required on all western Washington release sites by 2008.

Strategies:

- a. Test lead content and availability in the soils of select western Washington release sites.
- b. Survey hunters and other wildlife enthusiasts to help determine appropriate actions.
Action: As part of a survey, Western Washington pheasant volunteers were asked if they would support increased non-toxic shot restrictions. Results of the survey showed that 64% of the volunteers surveyed supported current regulations (non-toxic in areas where waterfowl or other animals have a high chance of exposure), 29% supported non-toxic shot on all sites and 1 respondent said he would stop hunting if required to use non-toxic shot.
- c. Conduct a literature search and compile lead density, availability, and risk information found in other states.
No Action.

Objective 167

Concentrate efforts on illegal harvest, public education, and landowner relations.

Strategies:

- a. Maintain a field presence in areas of high hunter density.
Action: Areas of anticipated high pheasant hunter density (e.g., western Washington pheasant release sites) are identified annually and requests for increased enforcement presence are made.

- b. Work with landowners to address their concerns/needs.
Action: Landowners who are in access agreements with the Department are contacted multiple times per year by private lands biologists and additionally by enforcement officers as warranted. Staff works with landowners to provide access control signs and technical advice.

SMALL GAME, FURBEARERS, AND UNCLASSIFIED SPECIES

OBJECTIVE 168

Revise the distribution map for all small game and furbearer species by 2008.

Strategies:

- a. Revise the distribution maps using Priority Habitats and Species (PHS) protocols.
- b. Revise the distribution maps from harvest and trapping data, sightings, and regional biologist interpretations.
- c. Revise the distribution maps from survey and ground truthing activities.

Objective 169

Develop furbearer management units by 2008.

Strategies:

- a. Develop furbearer management units based on species biology and populations dynamics.
- b. Develop furbearer management units based on nuisance activity.

Objective 170

Develop quantitative protocols for assessing the population status of small game and furbearing species by 2005.

Strategies:

- a. Develop quantitative methods for assessing population status from harvest data (e.g., catch-per-unit-effort, population modeling).
- b. Develop and implement survey methods to quantitatively assess population status.
- c. Improve the precision of current harvest estimates.
- d. Develop management criteria that address damage and nuisance problems on private property while ensuring long-term sustainability of populations on public lands.

Objective 171

Until *Objective 170* is completed, use at least two methods to assess the impacts of harvest on populations, and then set harvest levels based on the more conservative method.

Strategies:

- a. Assess harvest impacts from three-year trends in total harvest, catch-per-unit-effort, or nuisance activity.
Action: Ongoing – Currently assess harvest impacts from these sources.
- b. Assess harvest impacts using population modeling (e.g., population viability analysis, sensitivity analysis).
- c. Assess harvest impacts using survey data, research findings, or other biological information.

Objective 172

Develop a web based reporting system for furbearers and unclassified wildlife.

Strategies:

- a. Phase in a web-reporting system for the trapper's report of catch forms.
Completed: Web based reporting for furbearers was implemented in spring 2005.
- b. Provide a mechanism for reporting capture of non-target species.
- c. Develop web-reporting system in collaboration with Washington Trappers Association.

Objective 173

Implement management strategies by 2008 that are consistent with the biological status of furbearers and public attitudes, respectively.

Strategies:

- a. Incorporate best management practices for trapping and trap types in Washington.
- b. Consider revising trap check times for lethal trap types.
- c. Require all new trappers to take a trapper education course prior to being issued a trapping license.*
Completed: All new trappers must complete trapper education prior to being licensed.
- d. Consider restricting hunting or trapping opportunities that greatly impact the viability or distribution of other native species.
- e. Publish management and trapping information in WDFW's annual Game Status and Trend Report.
Completed: Furbearer trapping summary published in status and trend report

*Strategy currently is implemented.

Objective 174

If wolves colonize or become established in Washington, minimize possible negative impacts of coyote hunting/trapping on wolves.

Strategies:

- a. Consider restricting coyote harvest opportunities if appropriate in areas occupied by wolves.*
- b. Distribute educational information to hunters in areas occupied by wolves.*

* Strategy currently is implemented.

Objective 175

Minimize negative human-wildlife interactions so that the “number of interactions per capita” is constant or declining.

Strategies:

- a. Consider developing limited hunting seasons for appropriate furbearer species.
Completed: Considered hunting seasons during 2003-05 three year season setting public process
- b. Simplify special trapping permits via Enforcement Program to resolve damage caused by furbearers.
- c. Increase recreational harvest in areas prone to problem wildlife complaints.
Completed: Trapping seasons liberalized.
- d. Develop educational package with tips on how to avoid furbearer damage and nuisance activity.
- e. Develop educational partnerships for informing the public on how to avoid furbearer damage and nuisance activity.
- f. Develop contracts with private wildlife control specialists for managing individual furbearer species involved in damage and nuisance activities.

Objective 176

Develop a mechanism to assess the impacts of non-native species on native wildlife and habitat communities.

Strategies:

- a. Provide a reporting process for hunters and trappers to report lethal take of non-native species.
- b. Assess the impacts of non-native species by annually evaluating the problem wildlife complaint database.
- c. Coordinate monitoring efforts of non-native species with federal, state, tribal, county, and private organizations.

Objective 177

Develop at least 2 publications or products that describe the differences between game, non-game, or furbearer species that may be easily mistaken.

Strategies:

- a. Develop publications, in conjunction with WDFW diversity division staff, describing the differences between similar game and non-game species, including ground squirrels and western gray squirrels.
Action: The Department has one publication available describing several squirrel species, including ground squirrels and the western gray squirrel.
- b. Develop simple identification materials for use in hunting pamphlets.
No Action.

- c. Develop pygmy rabbit/cottontail rabbit informational signs and post areas where pygmy rabbits exist.

No Action: For several years, there were no pygmy rabbits left in the wild. In areas where reintroduction is planned, access closures have been posted. When pygmy rabbits become established again, the Department will ensure public educational materials are provided.

Objective 178

Provide educational information on furbearer habitat that reaches 100,000 people annually.

Strategies:

- a. Develop a website describing proper habitat management for maintaining furbearer populations while at the same time minimizing human-furbearer conflicts.
Action: Complete – Trapping seasons liberalized.
- b. Develop a viewing opportunity demonstrating proper habitat management for maintaining furbearer populations while at the same time minimizing human-furbearer conflicts.
- c. Develop a brochure describing proper habitat management for maintaining furbearer populations while at the same time minimizing human-furbearer conflicts.