

ARIZONA GAME AND FISH DEPARTMENT

HUNTER AND SHOOTING SPORTS RECRUITMENT AND RETENTION TEAM

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FINAL REPORT



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TABLE OF CONTENTS

GLOSSARY OF TERMS	ii
EXECUTIVE SUMMARY	iii
INTRODUCTION	1
Team Orientation/Foundation	1
Team Charter & Objectives	2
METHODS	4
Team Meetings	4
Concept Development & Analysis	4
State Benchmarking & Internal/External Surveys	6
Internal Program and Staff Analysis	7
AGFD License Sales/Draw Data Analysis	9
Team Recommendations	9
RESULTS AND ANALYSIS	11
Hunter Needs Assessment	11
Department Employee Survey	12
State Benchmarking	13
AGFC Wildlife Management Areas	21
AGFD Hunter Education Program	22
AGFD License Sales/Draw Data Analysis	23
TEAM RECOMMENDATIONS	25
Recommendation 1 – Wildlife Management Areas	26
Recommendation 2 – Private Land Leasing	31
Recommendation 3 – Hunter Ed Program	36
Recommendation 4 – Regulations Booklet	39
Recommendation 5 – Draw/Hunt Structures	41
Recommendation 6 – Hunt License Structures	44
Recommendation 7 – Web Page Enhancements	47
Recommendation 8 – Hunter Recruitment/Retention Coordinator	48
Recommendation 9 – Shooting Range Coordinator	55
Recommendation 10 – Public Information & Outreach	56
Recommendation 11 – Small Game Strategic Planning	57
Recommendation 12 – Hunt Draw/License Sales Data Analysis	59
PARKING LOT ITEMS	60
BALANCE SCORECARD RECONCILIATION	61
APPENDICES	Attached
Appendix A	Team Charter
Appendix B	Team Gantt Chart
Appendix C	Benchmarking Reports
Appendix D	Hunter Demographics Summary (WMGM)
Appendix E	Solution Selection Matrix (Tire Blind)
Appendix F	Hunter Needs Assessment Summary
Appendix G	Original Recommendations
Appendix H	Implementation Matrix
Appendix I	Team Cost Report

GLOSSARY OF TERMS (Definitions of words or phrases used in this report)

AGFC – Arizona Game and Fish Commission

AGFD and Department– Arizona Game and Fish Department

AZOD – Arizona Outdoorsman Website

FTE – Full Time Employee

GMU – Game Management Unit

HNA – Hunter Needs Assessment

HRR Team – Hunting and Shooting Sports Recruitment and Retention Team

IAFWA – International Association of Fish and Wildlife Agencies

LGRWMA – Lower Gila River Wildlife Management Area – The aggregation of those lands from Robbins Butte, Powers Butte, and Arlington Wildlife Management Areas.

NGO – Non-government organization.

OHV – Off Highway Vehicles

Positive Side of Neutral – Position wherein an individual supports Department and/or legislative actions considering hunting, regardless of participation in hunting activities.

Positive Threshold Experience – An initial experience that leaves an individual with a positive image of the activity, provides some level of success, and instills a wish to continue the activity.

Recruitment – Bringing a person into hunting and/or shooting sports through their participation and commitment to an activity. The intent is that the person leaves with a positive experience and opinion toward hunting and shooting sports. Recruitment may include a positive change in attitude toward the sport, rather than physical participation in the activity.

Retention – Maintaining a positive economical or political involvement through continued participation or support of hunting and shooting sports.

Tire Blind – (*n. Texanese*) An elevated blind that is situated to provide the hunter a commanding view of the feed bucket. A hunt methodology and regional pronunciation of the English words “tower blind” that is unique to the great state of Texas. Also serves as the title of a new TQ value-evaluation tool developed by the HRR Team.

WMA – Wildlife Management Area

EXECUTIVE SUMMARY

Hunter recruitment and retention has attracted the attention of many state wildlife management agencies as a strategic planning issue due to nationwide trends of declining participation in hunting and shooting sports. Research published in 2004 by the International Association of Fish and Wildlife Agencies (IAFWA) outlined an expanse of programs and efforts that have been launched by state wildlife agencies to increase public participation in hunting/shooting sports and jointly increase hunt license sales and constituent support regarding legislative issues. The Arizona Game and Fish Department (Department) has experienced its own declines in hunt license sales. The Hunter and Shooting Sports Recruitment and Retention Team (HRR Team) was chartered in September 2004 to identify strategies and approaches for the Department to promote participation in hunting and shooting sports in a manner that increases Department license sales.

The HRR Team employed a variety of tools and methods to identify relevant issues and generate concepts that would address the primary objectives and deliverables outlined in its charter. Key objectives and accompanying Team approaches included: 1) creating/conducting both internal and external customer surveys to identify potential barriers to participation in hunting sports while exploring opportunities for addressing hunter retention/recruitment; 2) researching and evaluating opportunities using Commission-owned wildlife management areas and the Department's Hunter Education program to enhance hunter recruitment/retention objectives; 3) conducting benchmarking with state wildlife agencies having successful programs/approaches that can be practically and effectively replicated in Arizona to address the Department's recruitment/retention needs; and 4) brainstorming and evaluating various other opportunities or concepts that serve to expand public participation in hunting sports. The HRR Team's benchmarking effort included performing site visits in Colorado and Texas to research youth hunting/mentoring programs that both states have successfully employed as a foundation to broader hunter recruitment/retention strategies.

In completing its research and review of identified hunter recruitment/retention opportunities and concepts, the HRR Team applied a variety of evaluation tools (to include time/cost/value analysis) in developing its final list of 12 recommendations for the Department to consider. Collectively, these recommendations reflect a need for the Department to take a programmatic and strategic approach to addressing hunter recruitment/retention, which includes deploying new programs and positions, while completing enhancements to existing practices that will undoubtedly benefit from adaptive management processes through time. Among the major themes reflected in the approach recommended by the HRR Team is emphasizing small game hunting as a vehicle to promote hunting recruitment and retention and to serve as a "bridge" to more limited big game opportunities. The HRR Team recommends the following as the base of a comprehensive hunter recruitment and retention program:

- Construct a comprehensive property management plan for the LGRWMA (Robbins Butte, Powers Butte, and Arlington Wildlife Management Area complex) that promotes small game opportunity and provides a venue for hunter recruitment/retention activities.

- Develop a short-term hunting lease program through Landowner Relations designed to obtain access to private lands for small game hunting opportunities.
- Implement enhancements to the Department's Hunter Education Program that promote course convenience and flexibility to customers and that further institute adaptive management evaluation/management practices.
- Charter a Team to identify improvements in the delivery of hunting information through the annual Regulations Booklet in a manner that encourages and facilitates use and understanding by new/inexperienced hunters, in particular.
- Evaluate existing big-game draw and hunt structures to maximize hunting opportunity on a sustainable basis.
- Institute special licenses that promote participation of new hunters through family/friend social structures that serve to reinforce and support hunting activities.
- Incorporate enhancements to the Department's web page that promote and support hunter recruitment/retention programs and activities.
- Create a new Hunter Recruitment and Retention Coordinator position within IEED to launch and coordinate the implementation of hunter recruitment/retention programs, activities and promotions.
- Establish a full-time Shooting Range Development Coordinator position in the I&E Division to promote convenient public access to shooting sports/ranges.
- Launch coordinated, Department-wide public information and outreach efforts that promote hunting and otherwise reinforce hunter recruitment/retention efforts.
- Update the Department's strategic planning documents to proactively address urban encroachment as it relates to maintaining small game hunting opportunities in proximity to urban areas, which advance hunter recruitment/retention efforts.
- Conduct periodic/annual reviews of important hunt draw and license sales data and trends and apply adaptive management practices to Department hunter recruitment/retention programs as needed.

HUNTER AND SHOOTING SPORTS RECRUITMENT AND RETENTION TEAM REPORT

INTRODUCTION

In the spring of 2004, the International Association of Fish and Wildlife Agencies (IAFWA) issued a report of national survey information obtained from state fish and wildlife agencies that provided a state by state summary of various activities and programs that were being employed to promote hunter recruitment and retention. This report, while relatively cursory and informal in nature, did reveal a broad spectrum of state efforts being aimed at building public participation in hunting and shooting sports. The majority of these state recruitment and retention efforts have been undertaken in an effort to curb the gradual erosion of a customer-base comprised of people that actively participate in and otherwise support hunting and shooting sports. Clearly, the general decline in the rate of participation in hunting sports and associated declines or stagnation of license sales has been elevated as a strategic concern for all fish and wildlife agencies.

Growing concerns over declines in hunting participation across the nation are further highlighted by the Department's own experiences of decreased hunting license sales in recent years. Much of this decline can be attributed to a decrease in hunting opportunities (primarily big game tags) that has accompanied successive years of drought in Arizona, but other potential business/operational influences and factors must also be reviewed for the Department to fully evaluate its efforts in recruiting and retaining hunters. The Director approved the HRR Team in August 2004 to launch this Department evaluation. The HRR Team's stated purpose was to gather and analyze available data and information on successful hunter recruitment/retention efforts and to identify potential barriers to participation by evaluating key internal processes and systems. In pursuing its mission, the Team was to develop recommendations based on data and analysis concerning strategies and programs aimed at encouraging and increasing participation in hunting and shooting sports in Arizona, which ultimately generate increased license sales. This report summarizes the HRR Team's efforts and its accompanying recommendations.

TEAM ORIENTATION/FOUNDATION

Early in the process of reviewing Team objectives and deliverables, and in organizing its approach to exploring alternatives, the HRR Team determined that it would establish definitions for the terms "recruitment" and "retention". The HRR Team agreed to the following definitions in an effort to capture fundamental concepts associated with these otherwise generic terms, and to ensure common perception/understanding among Team members when using the terms:

Recruitment - bringing a person into hunting and/or shooting sports through their participation and commitment to an activity. A minimum outcome is that the person leaves holding a positive experience and opinion toward hunting and shooting sports. Recruitment can include invoking a positive change in personal attitude toward the sport, regardless of ongoing physical participation in the activity.

Retention - maintaining positive economical, social and/or political involvement in hunting and shooting sports through a person's continuing participation in, and/or support of these activities.

Based on the preceding, it is important to note that the Team identified values of recruitment/retention efforts that include generating positive public support for hunting and shooting sports. Accordingly, the Team evaluated its alternatives and weighed recommendations based not only on the perceived impacts to the Department's revenue line, but also on their relative impact of leaving people on the "positive side of neutral" from a social/political standpoint, regardless of their active involvement in hunting or shooting sports. Clearly, while these social/political benefits cannot be overlooked when evaluating alternatives, specific values are difficult to quantify because of the intrinsic and personal nature of these values and the fact that they can evolve through time based on personal experience and perceptions.

TEAM CHARTER & OBJECTIVES

At inception, the Team's Charter initially reflected objectives and measures of success that captured a broader view of "expanding participation in hunting and shooting sports". During initial scoping, it became obvious this broad range of topics, viewed within the context of the HRR Team's project schedule, would compromise the level of analysis and evaluation that could be directed on specific concepts and ideas. These issues were discussed with our Team Sponsor, who obtained Executive Staff approval to revise the Team's Charter in order to reflect a more refined focus on hunter recruitment and retention, and to consider shooting sports only to the extent that they would relate to hunting. A revised Team Charter, dated October 1, 2004 (Appendix A) was adopted by the Team and served as the template from which the Team directed and planned its work product.

Following charter revision, the Team identified and planned the various steps that were required to fully address outlined objectives and deliverables. The Team developed a Gantt chart (Appendix B) to identify the major steps associated with this project, and used this tool to determine meeting dates based on the completion of key steps. Additionally, this chart allowed the Team to identify the relationship and relative dependence of project elements and steps, which was critical to final recommendation development.

The revised Team Charter outlined the following objectives:

1. Identify opportunities for expanding hunting participation in Arizona.
 - a. Identify opportunities to expand participation in hunting, or in shooting sports as these relate to hunting.
2. Assess Arizona hunters' perceptions of impediments to participation in hunting, and seek customer suggestions for recruitment and retention.
 - a. Provide data on hunter perceptions and suggestions.
 - b. To the extent that dominant impediments are identified through the assessment, offer recommendations that remove and/or reduce these perceived impediments.
3. Evaluate the Department's Hunter Education course for effectiveness and the existence of possible impediments to hunter recruitment.
 - a. Recommend elements of the Hunter Education program that should be eliminated, maintained, or modified.

4. Explore ideas to maximize hunting opportunities at Department-owned wildlife management areas.
 - a. Evaluate hunting opportunities and potential for hunting opportunities at Department wildlife management areas.
 - b. Recommend hunting activities and programs for Department wildlife management areas.
5. Explore innovative approaches using Total Quality tools and techniques.
 - a. Conduct a time/cost/value analysis of recommendations, including discussion of operational, personnel, and equipment costs.
 - b. Consider existing staff/workloads and Department financial capacities for implementation of new programs and activities. Include recommendations for reduction, modification, or elimination of existing programs if current capacity is not sufficient.
6. Tie recommendations to the agency balanced scorecard and customer needs assessments.
 - a. Develop metrics that are linked to the agency's balanced scorecard objectives.

METHODS

As identified in the charter, this Team was asked to submit a written report to Quality Council within six months of the first scheduled meeting date, with the final completed report due to Executive Staff and the Director one month after the Quality Council reporting date (total time commitment of seven months). In order to meet this timeline and adequately address the objectives listed above, the HRR Team conducted monthly meetings beginning in August 2004. Because of the wide-ranging and complex nature of our assignment, with the project further being intermixed with holiday and hunting seasons/commitments, the HRR Team requested and was granted a reporting extension through March 2005.

TEAM MEETINGS

The HRR Team's initial orientation/training meeting was held on August 17, 2004 and the first dedicated work meeting was held on September 7, 2004. Given the nature of the HRR Team's objectives and deliverables and the accompanying 6-month reporting timeframe, the HRR Team decided to establish 2-day meetings, where possible, in order to maximize productivity. The HRR Team's subsequent meetings were held on October 26-27, November 9, December 13-14, 2004; January 12-13, January 31-February 1, February 17-18, and March 8, 2005. One half of the team convened on March 18 to begin the final report editing process. All team meetings were conducted in Phoenix with a 9:00 AM-5:00 PM schedule for day 1 and 8:00 AM-4:00 PM schedule for day 2, as applicable. Agendas were prepared in advance of each meeting with specific meeting objectives being identified in advance of the meetings, and distributed to Team members when practicable. When necessary, assignments were provided to Team members to prepare for subsequent meetings and to otherwise maintain Team progress between meetings. The total amount of time used in completing the overall Team assignment was 2,464 hours, including facilitator and note taking/distribution time.

CONCEPT DEVELOPMENT & ANALYSIS

In approaching its objectives and deliverables, the HRR Team implemented a number of Total Quality tools to both evaluate and advance approaches and recommendations that were identified in the research/analysis phases. These tools included: brainstorming in team meetings; conducting an internal employee survey to identify issues/opportunities; conducting benchmarking of other state programs outlined in IAFWA's 2004 "State Examples of Hunting and Shooting Programs" report (including performing site visits to Colorado and Texas and a broader HRR Team review of selected state Internet sites); requesting presentations from and discussions with Department specialists regarding Commission wildlife management areas, Hunter Education, Landowner Relations Program, and Total Quality techniques; evaluating historic Department license sales and tag draw data/trends; and conducting an external customer survey that was designed to reflect key user-demographics and identify potential barriers/aids in improving public participation in hunting/shooting sports.

After collecting this data, the HRR Team then applied a variety of evaluation techniques to tease out critical concepts and otherwise narrow the field of available alternatives and opportunities. The HRR Team relied heavily upon issue-focused discussions and brainstorming with specific

outcomes in mind (tied to Team objectives/deliverables), but also utilized a number of other approaches to analyze elements and concepts down to the point of generating final recommendations. These approaches included consensus evaluation, plus/delta analysis, time/cost/value analysis, affinity diagrams, while soliciting Quality Council review and consultation on specific Team actions. Table 1, below, identifies primary Team objectives and a list of accompanying Total Quality techniques employed by the HRR Team in addressing those objectives.

Table 1. Team objectives and Total Quality tools utilized to assist Team efforts.	
<i>Objective</i>	<i>Total Quality Tools Applied</i>
Identify opportunities for expanding hunting participation	Brainstorming (Team and Inter-agency) Benchmarking (IAFWA report; state Internet sites; other states, including site visits) Customer surveys (Inter-agency and external, Demographics summary) Qualified specialists (Commission wildlife management areas, Landowner Relations Program, Habitat Branch) Solution Selection Matrix (Tire Blind), Plus/Delta analysis Time/Cost/Value analysis
Evaluate the Department's Hunter Education course for effectiveness and the existence of possible impediments to hunter recruitment.	Brainstorming (Team and Inter-agency) Benchmarking (state Internet sites; other states) Customer surveys (Inter-agency and external) Solution Selection Matrix (Tire Blind), Plus/Delta analysis Time/Cost/Value analysis
Explore ideas to maximize hunting opportunities at Department wildlife management areas.	Brainstorming (Team and Inter-agency) Customer surveys (Inter-agency and external) Qualified specialist interviews (Commission WMA's, Habitat Branch, FOR 6) Solution Selection Matrix (Tire Blind), Plus/Delta analysis, Time/Cost/Value analysis
Explore innovative approaches using Total Quality tools and techniques.	Brainstorming (Team and Inter-agency) Benchmarking (IAFWA report; state Internet sites; other states, including site visits) Customer surveys (Inter-agency and external) Qualified specialists (Commission wildlife management areas, Hunter Education, Landowner Relations Program, Habitat Branch, Game Branch, Field Operations Region 6, Quality Council reviews) Solution Selection Matrix (Tire Blind), Affinity Diagram Plus/Delta analysis, Time/Cost/Value analysis

Table 1. (cont.) Objective	Total Quality Tools Applied
Tie recommendations to the agency balanced scorecard and customer needs assessments.	Customer surveys (Inter-agency and external) Qualified specialists (Total Quality Manager, Quality Council reviews) Solution Selection Matrix (Tire Blind), Time/Cost/Value analysis

STATE BENCHMARKING

In launching the HRR Team, all members were asked to review the IAFWA report and generate individual lists of state programs and concepts that they viewed as being significant in promotion of hunter recruitment/retention in Arizona. The HRR Team then discussed these individual lists of programs and activities (including consolidating programs/activities into broader concepts, where necessary) to generate a final list of major program themes that would serve as the basis for the HRR Team’s benchmarking analysis and evaluation. The HRR Team supplemented this benchmarking list by brainstorming a list of existing Department Programs having a hunter recruitment/retention dimension, and shared this list throughout the Department to complete the inventory. This internal process assisted the HRR Team to evaluate the relative effectiveness of approaches taken by other states, while also assisting the HRR Team to narrow its focus on those concepts that would be benchmarked and evaluated.

Individual Team members were provided benchmarking assignments from the final brainstormed list of other state programs, and each contacted those states reflecting the most successful/innovative approaches that were compatible with AGFD issues and needs (Appendix C). The state benchmarking effort included requesting program summaries and background (i.e. program purpose and scope, and reason for initiating the effort), determining the agencies’ role and program resource commitments (operating budgets, marketing, etc.), determining the relative involvement/development of partnerships with outside entities, identifying any liability and insurance considerations, extracting existing program performance data and evaluation measures, and soliciting information on future plans for the program (including any anticipated changes in structure or level of commitment). Through this process, the HRR Team identified Colorado and Texas as being key states that had launched significant hunting recruitment and retention programs, especially those directed at youth that would serve as effective templates for Arizona. Team members conducted site visits with these two states to review their youth mentoring/hunting programs and to research accompanying operational aspects.

INTERNAL/EXTERNAL SURVEYS

An on-line employee survey was conducted to collect ideas on programs or improvements that would help meet the charter objectives. This effort was, for all practical purposes, a Department-wide brainstorm. The survey was sent to every employee via the Help Desk and posted on the Department’s Intranet (My AGFD) page. A total of 109 surveys were completed and nearly 1000 suggestions were collected. Employees were asked to identify barriers to hunting and possible solutions to those barriers. Additionally, they were asked to identify opportunities for recruiting or retaining hunters that exist at wildlife management areas, leasing lands, hunt structures, special licenses, family programs, shooting facilities, youth and mentoring programs, Hunter Education, and small game hunting.

A stated objective of the HRR Team was to conduct a Hunter Needs Assessment (HNA). An on-line survey was developed and sent to over 50,000 customers, which included Project WILD participants, 2004 Big Game applicants, and Wildlife News and Shooting Sports News subscribers. A total of 6,665 surveys were completed. The survey focused on hunter needs, barriers to hunting, preferences and importance of services. The HRR Team used information from internal comments, employee survey and team brainstorming to compile a list of potential barriers to participation in hunting and shooting sports. The barrier list was refined, focusing effort on barriers that the Department might influence. The refined list was used to generate needs assessment questions. Additionally, from the same sources, a list of possible services the Department could provide hunters was developed and used to draft needs assessment questions.

There is an inherent bias in the HNA in that nearly all of the respondents were active hunters. The HRR Team determined that surveying “potential” or “non-hunting” customers via a broader general public survey would not be feasible due to the cost/time requirements and the relative low value of data gathered. Alternatively, the HRR Team attempted to capture this information by referring to previous surveys conducted by Responsive Management Inc.; in particular, the 2003 “Factors Related to Hunting and Fishing Participation Among the Nation’s Youth”.

AGFD HUNTER EDUCATION PROGRAM

A stated objective of the HRR Team was to evaluate the Department’s existing Hunter Education program to determine if any aspects of the program present any barriers to new hunters and to further determine the general effectiveness of the program. In fulfilling this objective, the HRR Team conducted a review of the Department’s Hunter Education Program through interviews with Department staff, while complementing these investigations by performing accompanying benchmarking reviews of other state Hunter Education programs. In conducting its evaluation, the HRR Team considered the hunter education program in the context of presenting potential barriers to recruitment, use of hunter education as a recruitment tool, evaluating on-line alternatives/issues (certification and targeting adult versus youth customers), program delivery concepts, using the program as a mentoring tool, home study opportunities/implications, and the overall effectiveness of the current 20-hour minimum course structure. In addition, the HRR Team constructed specific questions relating to the Department’s Hunter Education program in both the internal and external surveys and reviewed accompanying responses with an eye to identifying improvements to the current Hunter Education Program.

Team members also reviewed information provided by The International Hunter Education Association concerning the organization’s role in administering reciprocity issues and maintaining minimum program requirements as it relates to the Department’s Hunter Education program. Team members also contacted the United States Fish and Wildlife Service (USFWS) for information on minimum hunter education standards and requirements governing the use of state grant monies.

Department staff also conducted informal meetings with over two hundred Arizona hunter education volunteer instructors to provide general commentary and input on the Department’s current program. This data, although unscientific, allowed staff to get a pulse on the ideas of

twenty percent of the active Hunter Education program volunteers on issues/elements that they perceived to be relevant to improving the program.

COMMISSION WILDLIFE MANAGEMENT AREAS

The HRR Team brainstormed ideas to improve hunter recruitment and retention efforts using Commission owned WMAs. Initially, the HRR Team gathered information regarding all Arizona Game and Fish Commission (AGFC)-owned wildlife management areas. The HRR team invited Gene Sturla from WMHB to provide historical background and other pertinent information concerning these properties. Upon reviewing the expansive inventory of Commission-owned properties, it became rapidly apparent that the HRR Team would need to narrow its focus and establish criteria for determining key properties and associated management objectives that would serve hunter recruitment/retention purposes in an effective manner. The HRR Team decided that taking a “Pilot Program” approach to exploring WMA opportunities and potential would be the most appropriate tact based on the Team’s timeline. Once WMA Pilot Program selection occurred, maps of these properties were obtained from WMHB, as well as existing management plans in order to allow for detailed research of options and opportunities.

The HRR team established two primary criteria for WMA selection: 1) the area had to be close to a large metro area, and 2) the area had to have a nexus to small game and/or migratory game birds. The HRR team selected small game/migratory game species over big game because they provide a good entry to hunting, success rates are typically high (positive threshold experience), hunter opportunity is greater and more consistent (hunters can go often and every year – aids in retention), and abundance of these species can be more easily influenced by agricultural practices. The urban-area focus was driven primarily by survey responses/information that indicate customer preferences for time/place convenience in accessing hunting areas, and that urban areas hold a disproportionately lower percentage of hunters (per capita) than do rural areas/counties (Hunter Demographics Survey, Appendix D).

Team members collected information from several sources for wildlife management area analysis, including Department personnel (DOFP, FOR6, FOR4, FOR3, WMHB), various farm service agencies, the NRCS, Maricopa County, and commercial farming websites. Team members made site visits to selected WMAs to assess existing condition and further familiarize themselves with the properties. In addition, the HRR Team benchmarked with six states and one National Wildlife Refuge regarding their management and use of wildlife management areas. States contacted via phone were selected by reviewing the International Association of Fish and Wildlife Agencies (IAFWA) “State Examples of Hunting and Shooting Programs” (2004), and by a search of state wildlife agency websites on the Internet. The initial search focused on western states that are similar to Arizona (growing human population, increased development, significant amount of public land, and subject to similar weather cycles). It soon became apparent that the southeastern and mid-western states had more experience conducting active management on wildlife management areas to increase production of game species. We contacted Arkansas, Florida, Georgia, Iowa, South Dakota, Texas as well as Cibola National Wildlife Refuge (CNWR).

Team members gathered data regarding selected WMAs from the above-mentioned sources, in addition to numerous contacts with Department personnel. These included the present and former Wildlife Area Managers, the FOR6 Wildlife Program Manager Tom Hildebrandt, GMU 39 Wildlife Manager Mark Stewart, FOR4 Field Supervisor Dave Conrad, Bob Broscheid and Gene Sturla from WMHB, and others. Local NRCS personnel, Travis Gable from Arlington Valley Farms, and personnel from Cibola NWR were also contacted to provide information concerning potential agricultural options that would improve and maximize small game opportunities on these properties.

AGFD LICENSE SALES/TAG DRAW DATA

In evaluating existing Department programs and the Hunter Needs Assessment survey, the HRR Team decided to review historical Department license sales and draw data, in addition to a draft report from Game Branch that outlined hunter demographics and customer preferences (Appendix D). This information was used to evaluate historical hunting sales and draw application trends and to otherwise determine key customer demographic indices/trends that would compliment information obtained through the Hunter Needs Assessment. Apart from looking at general trends in license sales and draw applications, the HRR Team was interested in obtaining information on residency status of Arizona hunters (including years of residency) and the existence of any cause/effect relationships that have influenced Department license sales activity (i.e. effect of fee increases on license sales, effect of youth program implementation on adult license sales, ratio of tags offered versus total license sales, etc.).

TEAM RECOMMENDATIONS

Based on the evaluations of the data and information gathered from the preceding methodology, the HRR Team generated an initial list of 30 potential recommendations for final evaluation and consideration (Appendix G). This list was paired-down and refined via brainstorming, plus/delta analysis, and additional time/cost/value analysis and general discussion to generate a final list of 12 recommendations contained herein. In evaluating these recommendations, the HRR Team recognized and identified relationships and inter-dependencies that exist between many of the final 12 recommendations. In doing so, it became apparent that these recommendations effectively serve to complement each other in building a Department-wide comprehensive approach to addressing hunter recruitment and retention as a strategic planning effort, rather than addressing the issue from an operational management standpoint.

In performing time/cost/value analysis, the HRR Team developed and employed a tailored Solution Selection Matrix (Appendix E), officially labeled the “Tire Blind Matrix” by team members, for purposes of attaching values to each recommendation. The HRR Team attempted to attach financial values to each recommendation in evaluating their respective impacts to the Department, which proved very difficult given the intrinsic nature of many of the values involved (i.e. preserving hunting heritage, positive side of neutral, etc.). Because of the difficulty in placing monetary values to many of the recommendations, the “Tire Blind Matrix” evolved and was utilized to evaluate three primary categories that support Department hunter recruitment/retention goals, which include their relative contribution to: 1) increasing license sales (potential as a recruitment tool); 2) mitigating erosion of license sales (potential as a retention tool); and, 3) generating public understanding and support of hunting as outdoor

recreation. Another criteria in evaluating each recommendation was their role/ability to support or enhance the effectiveness of other recommendations. Time and costs were obtained for each recommendation by conducting reviews of existing programs, benchmarking other states, site visit discussions, and researching information with current staff.

RESULTS AND ANALYSIS

HUNTER NEEDS ASSESSMENT

A vast majority of the Hunter Needs Assessment (HNA) survey respondents (98%) characterized themselves as hunters; therefore, the HNA may reflect a bias in that some needs of non-hunters and persons new to the sport may be under represented. General responses to the HNA include:

- A majority of HNA respondents (78%) indicated that they went hunting in the past year.
- Of those respondents identifying themselves as small game hunters only, 70% went hunting in the past 12-months; and of those identifying themselves as “new hunters”, 73% went hunting in the past 12-months.
- Of the survey respondents who did not hunt in the past 12-months, 96% had hunted before. In addition, 98% of these respondents indicated they would be interested in hunting in Arizona in the future if they had the opportunity.
- Of those that had hunted or had an interest in hunting, a majority (67%) considered themselves as “avid” hunters followed by those who considered themselves as “intermediate” hunters (24%) and occasional hunters (6%).

Hunters responding through the HNA identified several factors that represented “barriers” to their participation in hunting. These barriers, in order of response frequency, included:

- Not getting drawn for a big game tag – 90%
- Urbanization/Development of hunting areas - 65%
- Lack of time - 59%
- OHV disruption - 54%
- Overcrowding - 51%

Other barriers identified by HNA respondents that reflect more than 25% positive response were as follows:

- Not enough tags - 49%
- Access to hunting lands – 38%
- Too few animals – 34%
- Unsafe hunters in the field – 34%
- Lack of frequent opportunities – 27%
- Seasons too short – 27%
- License/tag costs – 25%
- Regulations too complex – 25%

Factors that did not appear to be significant barriers to HNA respondents included:

- Don’t have right equipment - 1%
- Family doesn’t approve of hunting - 1%
- Family doesn’t eat meat - 3%
- Lack of knowledge/confidence about hunt - 3%
- Bag limits too restrictive - 7%

- Lack of a mentor - 8%

Again, it should be noted that the preceding survey information was collected from a sample pool in which the majority of survey respondents identified themselves as active hunters.

HNA respondents were further asked to rate a variety of services in terms of how important they would be in hunter retention, hunter recruitment and hunter education. The following lists the more significant factors relating to each of these main categories:

Hunter Retention Services:

- Providing hunter easements allowing access through private land to public land - 81%
- Making land access information available - 77%
- Providing up to date hunt unit outlooks – 69%
- Providing big game draw results earlier in the year for planning purposes - 69%

Hunter Recruitment Services:

- Offering a family discount or hunting license - 62%
- Providing more youth hunts - 56%
- Provide mentor program - 47%
- Take a friend hunting coupon - 44%

Hunter Education services:

- Providing Hunter Education in different venues such as schools, YMCA's, etc. - 81%
- Providing web based lessons/training - 72%
- Provide shooting programs in schools - 72%
- Offer advanced hunter ed course - 66%
- More flexible class schedules - 62%

A survey summary report is attached (Appendix F). A complete set of Hunter Needs Assessment Appendices, including the questionnaire, all response data, and all comments provided by survey respondents, is available upon request (540 pp).

DEPARTMENT EMPLOYEE SURVEY

The HRR team conducted its internal survey of Department employees by email, receiving responses from 109 employees. The HRR Team felt it would be useful and appropriate to tap into the business and professional experience and observations accumulated by employees that have had the benefit of customer interactions through the years. The survey was constructed in a manner to solicit input from employees on what they perceived to be potential barriers to hunting, and to further solicit input on ideas that would serve the Department in improving hunter recruitment/retention.

A wide range of responses and ideas were accumulated through the employee survey. In evaluating survey responses, the HRR Team attempted to highlight those concepts/issues generating the highest levels of response and select ideas that otherwise would serve to address the objectives of the HRR Team (from the perspective of HRR Team members). To facilitate this highlighting effort, the HRR Team reviewed the various employee inputs in the context of grouping them into general categories and concepts, where appropriate. The following outlines

those employee suggestions, listed by general category or grouping established by the HRR Team, which revealed significant responses from survey participants and which the HRR Team elected to move forward into its recommendation-review process:

- Changing hunt structures in a manner that shifts to maximizing hunt opportunity, and away from “trophy” management
- Eliminating or redistributing rut-hunt opportunity to allow for increased hunt opportunity
- Simplify hunt regulations booklet and ease-of-use to customers
- Modify big game draw to allow only one tag per person per year to increase participation
- Hold youth hunts at wildlife management areas
- Create hunting opportunities closer to metropolitan areas
- Improve hunting access to public and private lands
- Provide hunting clinics similar to fishing clinics
- Promote small game hunting more given limited big game hunt opportunity
- Distribute reliable information on where to hunt near urban areas
- Address OHV disruption/road hunting based on negative perceptions that are created
- Encourage and promote development of sportsman’s clubs

All of these ideas and themes are addressed, in some fashion, in final set of HRR Team recommendations. A complete list of responses and information from the employee survey is available upon request (65 pp).

STATE BENCHMARKING

HRR Team communication with state wildlife agencies and other entities yielded useful information for recommendation development. In general, Arizona has comparable programs (although they may be offered at different scales) to those revealed in other states during benchmarking. Results are summarized by category below.

1. Wildlife Management Areas

Initially, the HRR Team benchmarked with western states regarding their use of wildlife management areas for hunter recruitment and retention efforts. The focus was on states similar to Arizona (human population growth and increasing development, significant amount of public lands, and similar weather conditions). However, this effort yielded little information. The search was broadened to include states from the Midwest and Southeast, who utilize their wildlife management areas for these purposes to a much greater degree.

Six states were ultimately selected for benchmarking: 1) Arkansas, 2) Florida, 3) Georgia, 4) Iowa, 5) South Dakota, and 6) Texas. In addition, Cibola National Wildlife Refuge was contacted concerning their cropland programs.

As with other benchmarking topics, responses varied significantly. Some states manage WMAs in a passive manner. Native and/or drought tolerant plants are used that do not require any irrigation and little manipulation. A slight increase in wildlife production is realized by periodically setting back succession, reseeding areas and manipulating vegetation to provide optimum cover distribution for target species. This option is relatively inexpensive, but may not

yield the desired game species abundance necessary to address issues of hunter recruitment and/or retention. This strategy is popular in South Dakota and they spend \$1.5 to \$2 million annually for these operations. This style of passive, or low intensity management works well in the Great Plains, as it mirrors and compliments similar enhancements through the Conservation Reserve Program.

Active agricultural operations on wildlife management areas will likely yield greater game species abundance and hunter opportunity. This option requires that production costs be covered either by increased license sales (Arkansas and Georgia), by an additional user fee (Florida), or by harvest and marketing of at least a portion of the crop. Arkansas, Florida, and Georgia have programs in which individuals with farming backgrounds are hired to manage wildlife management areas. This method provides total control of farming operations (no cooperative or lease farming occurs) and establishes a situation in which crop care costs are minimized given the absence of harvest and marketing costs. Alternatively, other state programs provide harvesting of all or part of the crop and marketing to cover or offset operational costs.

Iowa is extremely aggressive in active wildlife area management. They have interest in 450 wildlife management areas, are in the process of developing a strategic acquisition plan, and they actively farm 30K to 40K acres of agricultural land. Iowa funds their agriculture program through leasing the land to farmers. Agricultural leases go to bids, which are quite competitive, and the resulting contract tells the farmer where to plant, what he can plant, and may potentially contain a list of actions that the farmer must complete. This program provides offsetting costs and generates a profit, annually.

2. Youth Mentoring Programs

The HRR Team benchmarked with other state wildlife agencies concerning youth mentoring programs designed to foster recruitment of new hunters, and to field safer, more competent hunters. Initially, we benchmarked with Tennessee, Colorado, Nebraska, Texas, South Carolina, and Kansas by phone. These efforts ultimately resulted in an on-site visit to Colorado and Texas, which revealed some of the more progressive and well-organized programs.

Several states have mentoring programs designed to initiate new hunters, often focusing on youth hunters. These programs are developed to provide new hunters with the necessary skills to become successful hunters and attempt to provide a positive threshold experience for the new hunter. Of the states' programs benchmarked, team members identified two programs to review with site visits. Team members traveled to Texas and Colorado to benchmark their mentored "Huntmaster" Youth Hunting Programs. The Huntmaster concept originated in Texas and was later adopted by Colorado. The program offers an intensively mentored, active hunting experience for youth hunters accompanied by a parent/guardian.

- The HRR Team learned how the structured program works in Texas by meeting with the Texas Parks and Wildlife Department and the Texas Wildlife Association and by attending a youth hunt near San Antonio. The HRR Team learned the intricacies of administering the Texas program and viewed challenges through a new paradigm (overabundance of game coupled with access challenges unparalleled in Arizona).

- HRR team members traveled to Colorado and met with the Colorado Division of Wildlife to learn how that state had adopted the Texas program and manipulated it to fit a different wildlife resource and land management paradigm, similar to that which exists in Arizona.

Youth mentoring programs were generally a segment of a larger outreach effort. In many cases one employee administered the entire agency outreach effort with support from other agency personnel. In other cases the youth mentoring program was the sole program focus of a specific position.

During benchmarking efforts, several common critical themes and concepts emerged. These fundamental concepts were useful in proving a template for the Department in advancing its own hunter recruitment and retention programs. Many of the concepts will help guide the Department through challenges that were faced by other agencies while other concepts will provide the criteria for success in monitoring program implementation. The following themes and concepts also provide the basis for Recommendation #8.

Critical Themes/Concepts – Youth Mentoring Program

- ✓ **Effective youth mentoring programs are generally part of a larger outreach effort.** This is fundamental in that mentoring efforts are inextricably linked to other programs/events such as hunter education, shooting sports programs, special license/season structures, hunter skills labs, etc. In some cases a youth mentoring program is the sole focus of a position while other personnel and/or divisions within an agency handle other outreach components (Texas Parks and Wildlife Department, South Carolina Department of Natural Resources). In other cases the youth mentoring program is a portion of the responsibilities of an outreach coordinator position (Colorado Division of Wildlife, Nebraska Game and Parks Commission, Kansas Department of Wildlife and Parks).
- ✓ **Effective youth mentoring/outreach programs tend to grow rapidly and can exceed the ability of an agency to administer the program and of the resource to support the program.** Recruitment/Retention goals should be established early. All benchmarked states indicated that program demand is high and programs can grow rapidly, with agencies warning that a new program should start out small and grow while perfecting implementation, maintaining focus and forging alliances with partners. The point to this concern was that agencies in states experiencing tremendous population growth such as Colorado and Arizona might need to identify recruitment/retention goals to ensure that the resource and the program can effectively handle the demand and meet underlying program/resource management objectives.
- ✓ **Effective youth mentoring/outreach programs provide vision/structure as a progressive road map to continued participation.** Some agencies recognized that they must provide new participants a sequential set of activities, practices, etc. to engage them long enough to be recruited and retained as hunters. One state utilizes a checklist of 25 goals that are all tied to hunting and shooting sports (South Carolina Department of

Natural Resources). The agency believes that immersion into all aspects of the sport is critical to recruitment/retention.

- ✓ **Effective youth mentoring/outreach programs require an investment by participants.** Most benchmarked agencies have a program to help defer costs to participants to ensure that costs are removed as a barrier, at least initially. Most states require participants to complete hunter education. Some states require additional prerequisites before participation in programs. Many states require essays, thank you letters, etc. of participants involved in hunts. Most states require that hunters participate in community building activities (storytelling, camp chores etc.) and some programs stipulated that all participants depart at a predetermined time together to reinforce these concepts.
- ✓ **Effective youth mentoring/outreach programs are designed with awareness and sensitivity of the fact that parents/guardians of participants may be the primary focus of programs/activities.** Most states currently require (or are evolving similarly) that a parent/guardian accompany participants on the hunts. This is not only a liability driven decision, but it is based on an emerging knowledge that parents/guardians may not possess the fundamental skills and knowledge sets to serve as a mentor and primary support structure in maintaining family hunting traditions.
- ✓ **Effective youth mentoring/outreach programs seek innovative opportunities to provide positive threshold experiences for new participants.** Agencies strive to provide a positive initial exposure to hunting by providing opportunities that tend to be high quality (abundance of game/opportunity), access to the resource and provided services. Some agencies negotiated access to exclusive privately held hunting properties (Colorado Division of Wildlife, Texas Parks and Wildlife Department). All agencies that were benchmarked seek to provide hunt areas with minimal competition/hunter density to maximize quality of experience. This is most often accomplished by gaining access to otherwise closed private or public lands for the purpose of youth hunting.
- ✓ **Effective youth mentoring/outreach programs employ dynamic marketing techniques to further program goals and objectives.** Though direct marketing techniques are utilized by all states that were contacted, most states use innovative techniques to attempt to reach a broad and sometimes-nontraditional customer base. Billboards are utilized to attract participants to the mentored youth hunting programs by some agencies (South Carolina Department of Natural Resources). One agency (South Carolina Department of Natural Resources) utilizes a goals list that can be obtained at outreach functions that delineated 25 goals for participants and serves as an application into the program. Some agencies utilize an essay-writing program to select participants for their popular/high-demand programs (Colorado Division of wildlife, South Carolina Department of Natural Resources).
- ✓ **Effective youth mentoring/outreach programs develop and implement structured training programs to assure volunteer/instructor alignment with program goals and**

competencies commensurate with the program goals/objectives. Most agencies require the completion of an agency sponsored training program to be involved as a volunteer/instructor in youth hunting activities. Some of these programs are very structured with as many as 40 hours dedicated to completion. Comprehensive manuals/plans have been developed as an aid to volunteers in planning events, coordinating public relations, training other volunteers, completing reports/forms, budgeting costs, etc. (Colorado Division of Wildlife, South Carolina Department of Natural Resources, Texas Parks and Wildlife Department). Texas and Colorado have offered to provide manuals and training to the Department on their respective programs.

- ✓ **Effective youth mentoring/outreach programs are most effectively implemented when networked with volunteers/NGO.s.** This allows the program/agency to benefit from the greater agility and resources (volunteers, fiscal, etc.) of the cooperating group while maintaining the agency objectives. As mentoring programs grow, agencies tend to move the implementation of mentoring programs to cooperating partners. Though some states (Tennessee Wildlife Resources Agency, Texas Parks and Wildlife Department) tend to maintain administration, planning and implementation responsibility, other states (Colorado Division of Wildlife, Nebraska Game and Parks Commission, Kansas Department of Wildlife and Parks, South Carolina Department of Natural Resources) forge relationships with hunt clubs, shooting clubs and NGOs (Ducks Unlimited, Buckmasters, Pheasants Forever, National Wild Turkey Federation, etc.) to implement activities. The cooperating entities tend to be more agile at the community level with a greater abundance of political leverage, community contacts and understanding of local needs/issues.

A program challenge in forging these types of relationships, however, is in providing proper strategic focus and maintaining adherence to agency/program objectives while working with volunteers/NGOs. Though conservation based NGOs present positive conservation messages that parallel agency objectives, there can be concern about the program objective being lost or clouded by the partisan nature of an NGO's agenda. Many groups are single species focus and some groups compete with other groups for members, resources, etc., and it is important that youth mentoring programs not be hijacked by these agendas through time. Agencies may need to take measures to ensure that the recruitment/retention message is unchanged in the implementation of a program among several different groups. Steps may need to be taken to assure that the competition/partisan nature of the groups does not overshadow the important message of the program (The Colorado Division of Wildlife identifies cooperating NGOs under the universal banner "Partners in the Field" and maintains agency directed program to keep the agency message from being compromised.).

Some states have formed very effective relationships with nonprofit organizations to assist in the acquisition of funds and community support (The Texas Wildlife Association is an active partner in funding and supporting programs and positions associated with the Texas Parks and Wildlife Department Youth Hunter program and other outreach efforts.). In some cases these organizations were formed as a tool for mentoring programs (The Young Sportsman's Foundation was formed to assist the youth mentoring program of the Tennessee Wildlife Resources Agency).

3. Hunter Education Programs (other States)

The HRR Team benchmarked all 50 states Hunter Education Programs. Arizona's program is comparable to other state programs and we currently have one of the lowest accident rates of the 50 states, despite the fact that we do not require hunters to wear blaze orange. We differ from some states regarding length of course (ours is longer), and delivery mechanisms. We provide only traditional courses in a classroom and field setting. Some states offer their Hunter Education course via the Internet, but were quick to point out that this was done primarily to address convenience considerations and that the move to Internet did not increase the number of individuals taking the course.

The HRR Team evaluated our existing Hunter Education Program to assess whether it acts as a barrier to hunter participation or recruitment of new hunters. Research conducted by Responsive Management, Inc. (Fish and Wildlife Agencies) showed that approximately two percent of hunters are deterred by mandatory hunter education requirements. On the other hand, the research also reveals that 2 percent of new hunters are recruited because of hunter education. The HRR Team's HNA survey identified hunter education as being near the bottom in terms of potential issues/barriers facing active hunters, which is consistent with results acknowledged during the Governors Symposium on North America's Hunting Heritage hosted by the Texas Parks and Wildlife Department. Overall, according to the Education Branch, Arizona's hunter education graduation rates and Jr. license sales have remained relatively constant and stable, while Arizona combination license sales have dropped over the same timeframe. These trends reveal that recruitment of younger hunters has not been adversely affected by the hunter education requirements (though they also do not reveal any potential gains that may be attained by making the course of shorter duration).

In the hunter education community, new technologies and delivery systems are becoming increasingly prevalent. In 2004, 30 states were using an Internet delivery program for hunter education. Of those 30 states, 5 reported increases in the number of students and 2 reported decreases after instituting the Internet program. One of the main advantages to using the Internet program is the convenience that is provided to customers (program can be taken any time of day or night). Critics of the Internet delivery system have pointed out that the fact that Internet courses demand access to technology and require reading and computer skills that may not be available to all. Evidence suggests that actual Internet hunter education courses take longer to complete because of the extensive reading that is required. Other problems associated with the Internet course is that the medium is not conducive to designing curriculums that effectively address hunting ethics and the venue does not allow participants to interact as a community of sports enthusiasts. Online courses do not provide face-to-face teachable moments when a young person questions an instructor, and they do not provide venues through which "sportsmen communities" can be forged, as you would have in a classroom situation. While an online course provides obvious convenience gains to customers, another negative to the Department is that increased use of Internet courses by customers would result in a loss of federal match-dollars that are received based on hours of classroom instruction.

AGFD's current program is 20 hours in length making it one of the longer courses in the nation. The average length of program across the country is 14 hours, with 10 hours being the minimum

level of instruction that is needed to attain International Hunter Education Association certification. The HNA survey and the HRR Team's internal program review did not reveal any striking information to suggest that this approach was not reasonable and appropriate. Nevertheless, the HRR Team review (and recommendations relating to the Hunter Education program) reveals the opportunity to improve the overall efficiency and effectiveness of the program, and other areas involving program delivery that will benefit from adaptive management processes.

4. Youth Shooting Programs

The HRR Team benchmarked with other states (Illinois, Texas, Oklahoma, and Colorado) regarding youth shooting programs to determine if other programs would have value in Arizona. Arizona currently conducts shooting programs for juniors and women. Two other basic programs stood out as options that deserved further analysis, the first of which was the concept of providing manned, mobile ranges that can be moved to areas desiring a shooting clinic. Oklahoma, Texas, and Colorado use these activities to address shooting training needs in outlying areas. The second is the Illinois Department of Natural Resource's Wingshooters Program, which is particularly appealing/applicable given its emphasis on small game hunting (as an alternative to the big-game focus). This program offers seminars/clinics that are designed specifically to teach bird-shooting skills. Courses are offered for both juniors/women, and for all hunters. The program is run through the Illinois DNR and funded in part by a variety of groups including the NRA, Quail Unlimited, the National Wild Turkey Federation, and Pheasants Forever. Clinics are typically manned by DNR employees and volunteers from sportsmen organizations, and are held in state wildlife management areas.

5. Hunter Access/Leasing Programs

With the lack of access to hunting areas being identified by customers as a barrier for both recruitment and retention of hunters, the HRR Team benchmarked with several states regarding short-term hunting lease and other similar hunter-access programs. HRR Team members also sought information regarding potential partnerships (e.g. with NGOs) regarding hunting access issues. State wildlife agencies benchmarked include: 1) Texas, 2) Wyoming, 3) North Dakota, 4) South Dakota, 5) Nebraska, and 6) Oregon. Information regarding NGO partnership involvement in hunter access programs is limited, although the Texas Wildlife Association works at some level with TPWD to address access programs for youth hunters.

The programs benchmarked vary by state, but have at their core the concept of variable lease payments (dependent upon lease duration and size of acreage) made to private landowners by the state wildlife agency for hunting access. These lands are typically not open for any other recreational activity (e.g. biking, bird watching, etc.). All programs benchmarked have at least one FTE that is responsible for the program; most had multiple FTEs (these FTEs have no other duties). In addition, other field personnel (biologists and wardens) typically assist with landowner contacts and property signage. Restrictions are generally placed on hunters regarding the timeframe properties are open, species that can be hunted, and method of access (e.g. foot traffic only). Most programs charge some form of access fee, or receive a portion of license revenue or special use permits (e.g. habitat or conservation stamps, hunter access permits, etc.). Lease payments made to landowners range from \$0.50 to \$5.00 per acre. These programs

generally are most successful in the range of the ring-necked pheasant, although some states, such as Oregon, Wyoming, and Idaho have successful programs for other species.

6. Special Licenses and Hunt Structures

The HRR Team gathered benchmarking information concerning special licenses and hunt structures directed at improving hunter recruitment and retention from Washington, Alabama, Connecticut, Colorado, and South Dakota. These programs typically target youth hunters by providing either price breaks on license fees, or by providing special seasons or opportunities.

The Department currently offers similar opportunities for youth hunters though the magnitude of our programs is limited based on the relative availability of wildlife resources. Benchmarked programs generally involve hunts for small/upland game species and/or antlerless deer or elk hunts where harvest objectives are high enough to support supplemental youth hunt opportunity. For example, Colorado sets aside 15% of all antlerless tags for youth hunters, but they have much higher big game populations than does Arizona. We currently provide 100% of antlerless deer harvest opportunity (which is extremely limited) to youth hunters, in addition to 2% and 5% of total deer and elk tags, respectively. Some states (e.g. Washington) offer the same opportunities provided for youth hunters to both disabled and senior hunters. A number of states having high/problematic deer populations (Eastern/Midwestern states and Texas) utilize antlerless deer hunts as a primary driver supporting their youth hunter/recruitment programs.

7. Shooting Ranges

HRR Team members contacted eleven states to determine what approaches other states are undertaking to develop new ranges, including: Alabama, Arkansas, Massachusetts, Michigan, Nevada, Oklahoma, South Carolina, South Dakota, Virginia, Washington and West Virginia. Several states (Massachusetts, South Dakota and Washington) were queried concerning their granting programs that provide funds to private shooting ranges for improvements and public access. Arizona's granting system, funded at \$100,000 per year, compares favorably to other states in design, purpose and funding commitment. Arizona's program is advertised directly to the ranges by mail-out; eight applications were received in 2004 and nine were received in 2005.

States were also contacted regarding recently constructed ranges and expanding range programs. South Carolina and Virginia are currently expanding their programs while building fairly elaborate manned and unmanned ranges. Costs associated with these ranges vary from \$150,000 to \$600,000. West Virginia, on the other hand, has implemented a program building small, unmanned ranges with a simple, standard design that costs an average of \$20,000 each. These ranges are classified as "sight-in" ranges intended to serve the hunting public. These ranges have six to eight shooting stations with a range distance of 100 yards.

During benchmarking it was discovered that some states (South Carolina, Virginia, and West Virginia) build shooting ranges on their wildlife management areas. None of these states reported any significant conflicts between shooters and other WMA users. The cost associated with building a new range is lower if the cost does not include land acquisition.

8. Simplified Regulations

Based on data collected during the HRR Team's customer needs assessment, the format and content of Arizona's hunting regulation booklet has been identified as a possible barrier to recruitment of new hunters. Legal language and general presentation of hunting requirements/rules is cumbersome and hard for the uninitiated hunter to comprehend. As a result, we looked at other state regulation booklets via state websites to determine if our regulation booklet could be provided in a more user-friendly format.

Some states provide separate regulations for big and small/upland game, or provide a synopsis of season dates and bag limits by species in a manner that promotes ease of use. Both options provide a simpler and quicker way of obtaining information and generally appear more user-friendly than our existing regulations booklet.

9. State Agency Websites

Other state websites were reviewed to assess their methods for providing hunter information and to determine what topics/concepts they presented to address hunter education, recruitment or retention matters. Some states, such as Connecticut, Illinois, Hawaii, offer a "Just for Kids" page that provides activities, games, and information specifically written for juniors. Most states offer information concerning hunter education, Becoming an Outdoor Woman, Project WILD, and Step-Outside. Formatting of the main webpage in a manner that facilitates easy access to other pages/links appears to be crucial. The ability of a user to locate this information through a prominent, easily understood link positively influences information circulation. The HRR Team found that the most effective sites appear to provide information no more than two "clicks" away from the main web page, with a prominent, easy to locate and understandable link on the main page.

10. Other Benchmarking Topics Considered

Initially, the HRR Team discussed and assigned benchmarking for other topics including: 1) state operated game farms, 2) family outdoor programs, and 3) Hunters for the Hungry. After further discussion and analysis, the HRR Team felt or was directed by our sponsor that these items were either politically inappropriate for Arizona, or that the issue was being addressed through other programs. Few instances of family-oriented outdoor programs could be located throughout the nation, and no family-oriented hunting programs were found.

DEPARTMENT PROGRAM ANALYSIS

The following outlines the findings of the HRR Team's review and evaluation of Department programs and operations that related to Charter objectives and deliverables.

1. AGFC Wildlife Management Area Analysis

Using WMA selection criteria established by the HRR Team, the HRR Team selected the Robbins Butte, Powers Butte, and Arlington WMAs as the site for our recommended Pilot Program, since these best met our selection criteria, while also providing opportunities for integrated management given their proximity to each other. To simplify this discussion, we are referring to the aggregation of these three properties as the Lower Gila River Wildlife Management Area (LGRWMA).

Of these three WMAs, Robbins Butte currently receives the bulk of active management attention, and the other two units are managed more passively. Funding is a major concern at this time regarding wildlife management area operation, and limits the Department's ability to more actively manage these lands. All of these properties have a history of managed hunts, directed primarily at youth hunters. The Wildlife Area Manager for FOR6 resides at Robbins Butte but there are no residences at the other wildlife management areas. All lands in question were more actively farmed in the past, particularly at Powers Butte (formerly Mumme Farms). Since Commission acquisition, the Department has conducted most of the farming, although some references to past cooperative farming was discovered. Apparently, damage to and wear of equipment, transportation costs, and problems with flooding were the chief reasons cooperative farming was discontinued on these WMAs.

Urban encroachment concerns are increasing at a phenomenal rate in the Lower Gila River corridor. Evaluations of current landownership patterns surrounding our WMAs suggest they are relatively secure on the south and east (with some exceptions), but are vulnerable to increased development to the north and west. Discussion with many Department personnel strongly suggests we are not using these areas near their potential, which is strongly influenced by securing appropriate funding for operations and developing accompanying management plans for these areas. The HRR Team feels there are opportunities to strategically address hunter recruitment/retention parameters within comprehensive management plans for the LGRWMA.

2. AGFD Hunter Education Program Evaluation

Arizona's hunter education programs date back to the mid-1950's using the National Rifle Association curriculum with a focus on firearms safety and was directed in an effort to reduce firearm related hunting accidents in Arizona. The program was created by state law and required all big-game hunters between the ages of 10-14 to complete a course of study on the safe use of hunting equipment. The Arizona Game and Fish Department was identified as the administrator of the program. Volunteer instructors were recruited from throughout the state, the curriculum was standardized and a system for certifying and recording students was established. In 1980, and again in 1987 the basic course expanded due to the realization that teaching firearms safety was not enough and that hunter ethics/conduct in the field were necessary areas of focus. As regulations became more complicated, hunters also needed to understand these regulatory principles while also gaining exposure to underlying goals of wildlife management, all of which require instructional attention. A combination hunter education course was added by the Department in 1995, which remains unique in the country in that a student can become certified in both bow hunting and rifle hunting in one program. A supplemental course was added in 1998 to aid out of state hunters in obtaining the education bonus point as well as helping these individuals hunt safely in Arizona. This course has been attended by people originating from all fifty states, some flying in for the day to attend.

The Hunter Education Program is administratively housed within the Information and Education Division of the Department. The Project Leader is the Education Branch Chief. Two Hunter Education coordinators provide program coordination and are assisted by one secretarial position. The project also gets assistance from regional wildlife officers and regional I&E

personnel in instructor training and class presentations. Along with developing safe hunters, one of the Hunter Education Program's primary objectives is to instill in hunters an awareness of responsibilities as users of a public resource with an emphasis on respect for private/public lands, game laws, and the rights of other hunters.

The current Arizona Hunter Education Program is a statewide effort involving over 850 volunteer instructors. Approximately 4,500 students graduate each year and 125 new instructors are trained. The time that volunteer instructors put into the program is used as a match for federal aid grant to the hunter education program. In 2004, this federal match was over \$220,000.00. The basic AGFD Hunter Education Program requires a minimum of 20 hours of instruction in such areas as the safe handling of firearms and archery equipment, hunter responsibility and ethics, principles of wildlife management, survival, wildlife identification, game care, rules and regulations, simulated hunts, and concludes with a mandatory range live-firing experience. The combination firearms/archery course takes 28 hours to complete. Each participant's performance is evaluated based on class sessions, the simulated field course, and by final written examination. Students are required to pass a 50-question test, which are evaluated to assure educational validity.

The Department's current instructor-training course involves a minimum of 15 hours. Potential instructors are trained in all phases of the basic student course, effective teaching techniques, student evaluation procedures, and classroom management techniques. Individual instructors are evaluated throughout the training class. Final certification is not made until the new instructor has assisted with at least one student class. All instructors are also fingerprinted and submit to a background check.

The hunter education program provides for student evaluations, which are conducted as a part of every class. All students are requested to fill out a survey that allows each participant to rate the program on a 1 (poor) to 5 (excellent) scale, and to suggest course changes. The *average* evaluation score of hunter education programs statewide is presently 4.7. When looking at course evaluation scores from individuals over the age of 18, the average course evaluation score goes up to 4.8. In an effort to maintain Instructor performance, all Instructors are required to attend 8 hours of in-service every two years and also teach at least one class during that period. The Hunter Education coordinators also attend classes throughout the state in order to evaluate and monitor instructor performance, especially in cases where evaluation scores are below average.

The HRR Team review of the AGFD Hunter Education Program revealed various opportunities for improvement including: enhancing instructor training (consistency of presentation and materials, time management, interpretation of Title 17, etc.), improving customer convenience (scheduling and flexibility of classes), balancing course availability with demand, addressing continuing education needs, and implementing improvements in the course evaluation system.

3. AGFD License Sales/Hunt Draw Evaluation

Though not identified as an objective in its charter, the HRR Team completed a review of historical hunting license sales data and big-game hunt draw information to aid in the analysis of

customer purchasing trends and demographics that would assist evaluation of hunter recruitment/retention efforts. The HRR Team review also considered information and data provided in the draft report from Game Branch regarding hunting demographics and customer preferences. In conducting its review, The HRR Team identified specific data trends and metrics that would be useful in evaluating the effectiveness of hunter retention/recruitment programs and efforts and guiding adaptive management processes in improving these programs through time.

Key trend metrics or customer information data points included: annual license sales levels (target increases), age classes of license buyer (target proportional increases in the younger age classes with the average age of Arizona license buyers having gradually increased through time); total number of new license buyers (target increases); gender (target increases in diversity); County of residence (target increases in urban participation with the rural counties reflecting a disproportionate share of current hunting participants); years of residency (target increased participation from new-residents (0-10 years) with the average years-of-residency having increase); gross number of big game applicants and age class distribution of applicants (target increases); and draw-applicant churn (target dropouts). The HRR Team also feels it would be useful for the Department to periodically monitor the distribution/percentage of small game hunters (through the WMGM hunter survey) as an indicator of determining the effectiveness of small game hunting as a hunter recruitment/retention tool for the agency.

RECOMMENDATIONS

In its December 13th and 14th meetings, the HRR Team compiled an initial list of 30 potential recommendations that had been generated from the various research and evaluation methods employed by the HRR Team. In subsequent meetings leading up to the report, this list of 30 recommendations was paired-down and refined through concept-consolidation, plus/delta analysis, and accompanying HRR Team discussions/voting to generate a final list of 12 recommendations. The final list includes recommendations involving a Department Wildlife Management Area Pilot Project, Hunter Education Program enhancements, and hunt draw/license sales data analyses, which were developed independent of the original list of 30 recommendations because these related to specific HRR Team objectives/deliverables. The recommendation for evaluating/monitoring hunt draw and license sales data originated from the HRR Team's work in reviewing historical internal data, which was viewed as being useful to evaluating performance of hunter recruitment/retention programs.

In the process of refining its list of final recommendations, the HRR Team decided to not forward certain recommendations that were determined to be impractical or otherwise ineffective. These discarded recommendations include the following:

- Stocking small game hunts on WMAs or private lands to promote hunt success and participation. The HRR decided to abandon this recommendation because of direct cost/benefit considerations (viable/reliable sources of native game species being too costly through time) and the potential risks of negative public perceptions associated with the Department engaging in planting game for purposes of promoting hunting/shooting of these stocked small game species. The HRR Team felt this could be detrimental to Department efforts of keeping non-hunters on the positive side of neutral.
- Establishing a free small-game hunting weekend was modified to a final recommendation of providing/incorporating one-day small game license coupons on each hunting license.
- Offering discounted youth/first-time hunting licenses was modified to a final recommendation of providing family hunt-licenses (similar to the family fishing license) largely because of perceived administrative burdens making the initial discounted youth/1st-time hunter licenses impractical. *However, if and when a comprehensive POS is instituted on license sales, the Department could reevaluate the feasibility of offering new or first-time hunter license discounts.*
- A "hunters for the hungry" game meat donations program was initially considered to accommodate those people that enjoy hunting but whose participation is limited because they do not enjoy/utilize game meat. The HRR Team decided to advance this concept based on the Department's continuing cooperation with NGO's and other external entities having programs address this concept in some fashion.
- A select number of other recommendations from the original list of 30 were combined with or otherwise consolidated into other concepts that are reflected in the final list of 12 (Appendix G).

TEAM RECOMMENDATIONS

RECOMMENDATION #1 - Develop a comprehensive property management plan for the LGRWMA (Robbins Butte, Powers Butte, and Arlington Wildlife Management Area complex) that includes determining optimal agricultural operations to promote small game hunting opportunity and provide venues for hunter recruitment/retention activities.

Given the various dimensions involved in thoroughly planning and constructing this concept, the HRR Team recommends that a Task Team be assembled to develop a wildlife area management plan for LGRWMA that addresses the goals and objectives identified by the HRR Team, below. The management plan will include a business/operations plan regarding the farming operation associated with these properties for purposes of promoting small game production and providing direction on the integration of adjoining lands under a consolidated plan. Development and implementation of this management plan will represent a pilot program to launch other hunter recruitment and retention programs/efforts identified by the Department (see Recommendation #8). If successful, we recommend this program be expanded to include (or develop) similar opportunities near Tucson and Yuma.

Pilot Program Goal – Increase and secure Hunter Recruitment and Retention efforts by instituting wildlife management area management practices and plans that maximize small game hunting opportunities near urban centers, while also providing appropriate portioning of uses and management practices that address nongame management obligations/issues.

Pilot Program Objectives

- Construct and plan the implementation of wildlife management approaches and regimes that have a small game/migratory game bird emphasis for purposes of promoting hunter recruitment/retention programs and activities.
- Maximize small game/migratory game bird populations in the area by implementing feasible and sustainable agriculture practices, where practical.
- Determine the manner and feasibility of offsetting agricultural operating costs through cooperative farming ventures with private partners and identify the optimal mix of cultivated crops that maximize the balance between commercial crop value and wildlife habitat value.
- Incorporate specific hunting programs and activities that fulfill hunter recruitment and retention objectives (i.e. positive threshold experience on youth mentoring hunts, sponsored youth hunts, sportsman's group outings and retention-oriented programs/activities directed to existing hunters), including developing accompanying hunt program schedules/seasons and operational parameters that support sustainability of the wildlife resource and hunter recruitment/retention programs.
- Identify and address Agency obligations and other existing management requirements tied to the properties (T&E and sensitive species management, water rights issues, etc.) when cooperatively developing the comprehensive property management plan with WMNG.
- Construct a baseline operational budget that is required to support implementation of the comprehensive management plan that accommodate marketing and deployment of

associated hunter recruitment/retention programs. *This objective will also include identifying funding sources that support or supplement the operational plan/budget.*

- Optimize the integration of adjoining lands (BLM and State trust) into the Lower Gila River Wildlife Management Area to maximize small game hunting opportunities that are derived from or associated with the WMA's agricultural practices, and that further protect the WMA from property fragmentation and development in perpetuity. This objective may also include identifying potential funding sources and partnerships that may be needed to secure/manage these adjoining lands.

Explanation: In evaluating strategies to increase hunter recruitment and retention using existing Arizona Game and Fish Commission wildlife management areas (WMAs), one of the main barriers to recruitment and/or retention identified in our internal and external surveys, and in national surveys, is the lack of local/convenient access (real or perceived) to hunting areas - especially for those living in the large metro areas. Another identified barrier relates to the limited big game hunting opportunity in Arizona, and the lack of consistent, guaranteed opportunity for big game. As directed by the charter, the HRR Team discussed the possibility of using existing wildlife management areas in ways to mitigate these concerns by: 1) focusing on providing readily accessible and more consistent hunter opportunities in proximity to large urban areas, and 2) exploring options to increase or maximize hunting opportunity and success on these lands.

It is recommended that the Task Team include, at a minimum: the local Wildlife Manager (FOR6), the Wildlife Area Manager (FOR6), Wildlife Program Manager (FOR6), Small Game Biologist (WMGM), and a representative from IEED, WMHB, Nongame Branch and the Landowner Relations Program. The Task Team is recommended, at a minimum, to address the following aspects in building a comprehensive management plan:

- **Determine the most effective farming alternatives to achieve management goals and objectives.**
 - Department versus co-op farming
 - Optimal crop mixes, rotations, and interspersions
 - Commercial crop potential (can the Department offset costs through commercial sale of crops planted)
 - Determine viability of crop mix consisting of alfalfa and small grain (e.g. barley) being planted in a mosaic fashion (crop strips) to maximize multi-species small game production capability. Portions of the small grain crop may need to be separate if seasonal flooding is desired for waterfowl management.
- **Identify/evaluate equipment and infrastructure needs for agricultural operations including:**
 - Facilities needed to provide secure on-site storage of equipment for all WMAs (based on preceding agricultural operations plan)
 - Staffing, office, and residence needs (if applicable, based on operations plan)

- Water delivery and irrigation systems, including ditch maintenance and development needs (based on agricultural operations plan).
- **Evaluate the utility and feasibility of the existing road system in accommodating farming operations and safe public access.**
 - What improvements would need to be made to bring existing roads to standards necessary for safe public access and adequate movement of farming equipment between cultivated areas (particularly to Powers Butte)?
 - Are existing easements in place to accommodate long-term adoption of these road systems? Travis Gable of Arlington Valley Farms indicated that the farm's previous owner had access across the Gila River. Does the potential for a primitive river crossing still exist?
 - What is the status of the easement ROW across BLM lands, and would it be more cost effective to develop a road there as an alternate (since it is out of the flood plain)?
 - Address ongoing road maintenance costs for final alternative and incorporate into property management plans.
- **Evaluate encroachment/development threats and acquisition opportunities associated with surrounding BLM and State Trust Lands.**
 - Complete a threat assessment on surrounding state owned or federal properties as it relates to the implementation of a long-term property management plan. Residential and/or commercial development of these lands would threaten the use and flexibility in managing local WMAs, including impacting hunting uses. Property development and habitat fragmentation in this area would negatively influence the amount of land open to hunting, even within our wildlife management area boundaries.
 - State Trust Lands appear to be particularly vulnerable to sale for development purposes. Some key parcels of state lands are adjacent to (or actually part of) these properties. Determine status of those lands within existing wildlife management areas and those lying outside. A parcel located on the eastern boundary of PBWA (T2S;R5W;Sec.2) could potentially be developed given its location and topography, and the team can explore alternatives in securing these lands, if necessary.
 - Document procedures and costs for purchase or long-term lease of surrounding properties.
 - Determine implications to Department and associated property management plans of not securing surrounding properties.
 - Consider partners for funding both purchase/lease options and habitat work, if determined to be viable. Consider application of mitigation funding from developers (et al.) as potential source of funding for this program.
 - Identify and plan both small and big game opportunities on surrounding properties (e.g. water development and agricultural needs).

- Identify and evaluate issues regarding grazing, potential mining, etc of surrounding BLM/State Trust lands that may influence property management approaches.
- **Address program management budgets and accompanying user data needs.**
 - Establish, at a minimum, assessment and evaluation protocol concerning:
 - User days (by activity, species, season)
 - Harvest (e.g. estimated during opening weekends using check stations, etc.)
 - Department expenditures needed to support small game management/hunt program implementation.
- **Analyze methods to be used to address both recruitment and retention needs at LGRWMA.**
 - Include measures and metrics used to evaluate success of programs being implemented.
 - Incorporate appropriate adaptive management provisions within the property management plan to accommodate ongoing refinements.

Costs: Based on average TQ Team time expenditures and the number of recommended personnel, the HRR Team estimates a task team (minimum of 7 personnel) will need approximately 700 hours (100 hrs per person) to evaluate and develop a long-term management plan for these properties. Assigned personnel will likely be involved in this planning effort for at least a 6-month period. We estimate team costs will approach \$24,500. Actual implementation of Task Team recommendations will obviously be more costly on an annual basis, but are as yet unknown.

Value: Value regarding such a recommendation is difficult to estimate using traditional time and monetary costs. We know hunter access is limited surrounding our large metro areas, and is continuing to decline. Consequently those hunters living in metro areas are more likely to begin other activities in lieu of hunting if finding a place relatively close to hunt becomes more difficult. Providing an area with abundant small game opportunities for urban hunting constituents (existing and potential) that is nearby will positively influence recruitment, mitigate erosion of license sales, and increase political support among constituents. This recommendation will influence or be influenced by recommendations 2, 8, and 10.

Justification: Considering the time the HRR Team estimated this management plan development effort will require, and the scope and importance of this recommendation, and the other elements we were tasked to evaluate, it was not feasible for this team to completely develop final management parameters during our allotted time. In addition, HRR Team members were not able to contact certain key personnel whose input is necessary for plan development. However, our team believes this concept and property management-planning model will serve as a valuable component in addressing hunter recruitment and retention.

Other Considerations: Below represents an example of crop management and associated costs/offsetting value:

- Alfalfa will be used as the cash crop that either the Department or a cooperative/ lease farmer can market. No more than three cuttings of alfalfa will be permitted so as to promote habitat benefits.
- Grain crops, or a portion of grain crops ultimately determined by the Department, should be left in the field.
- Every 4th year, alfalfa may need to be replaced with a C4 (such as corn, maize, or sudan grass) for weed control purposes. Recommend rotation of these crops so that a C4 component is always present. No more than 25% of these fields should be in C4 at any given time.

Alfalfa requires a great deal of water and may be difficult to include as a major component of planted crops. We may not have a sufficient water right to meet the needs of this species. However, from a marketable crop standpoint, and because of the wildlife value it yields, we should include it where possible. The analysis below documents current material costs (do not reflect accompanying equipment and labor expenses) and economic value of alfalfa.

200 Acres of Alfalfa:

Initial start-up (planting all 200 acres) 30 lbs/acre @ \$1.90/lb	= \$11,400
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- Annual Planting (25% or 50 acres) 30 lbs/acre @ \$1.90/Lb	= \$2,850 (cost)
- Annual Fertilizer 100 Lbs/acre @ \$320.00/ton	= \$3,200 (cost)
- 200 Acres of Small Grain (Barley):	
- Annual Planting (seed) 50 Lbs/acre @ .22/Lb	= \$2,200 (cost)
- Fertilizer 150 Lbs/acre @ \$285.00/ton	= \$4,200 (cost)
- Electric (water pump) \$6,500 for approximately 50 acres	
- in 1998 extrapolated to 400 acres	= \$52,000 (cost) *
TOTAL	= \$64,000**

Producing 1 ton/acre at \$70/ton (3 cuttings) = \$42,000 (income)***

* There may be ways to reduce this cost, solar systems to supplement APS electric (past managers indicate there are significant administrative fees that are paid to APS beyond electricity used), or gear heads on the pump so tractors and not electricity can operate them.

** This total cost is intended to represent the annual cost of alfalfa farming and, therefore, does not include the initial planting cost of seed (\$11,400.00). Furthermore, these costs do not factor in equipment or labor costs, which can vary depending upon the nature of the operation.

*** This amount could be higher. The Department of Agriculture reports that farmers in the area often get 6 to 10 cuttings a year from alfalfa. Increasing the number of cuttings to six a year would increase the income to \$82,000.

HRR Team members contacted Travis Gable from Arlington Valley Farms, who is a third-generation farmer in the area, and who currently farms 1,500 acres on the north side of the Gila River across from Powers Butte. Mr. Gable indicated that he and his family are quite familiar with Power's Butte WMA (formerly Mumme Farms) resulting from a close relationship with the land's previous owner. Mr. Gable was quite positive that, assuming the amount of available water is adequate, a farmer would find it economically worthwhile to farm the land under a

program similar to what is described above. Mr. Gable indicated that he would like to be considered as a potential cooperative partner.

RECOMMENDATION #2 - Develop a short-term hunting lease program through Landowner Relations that is designed to obtain access to agricultural private lands for small game hunting opportunities.

The HRR Team recommends that the Landowner Relations program evaluate the application of both general hunter access and access through specialized opportunity programs that can be targeted to specific hunter recruitment/retention efforts. The HRR Team understands the potential financial exposure/complications this presents in relation to existing landowner access agreements, and accordingly suggests that a “pilot program” be undertaken that would allow for focused evaluation of costs, benefits, manpower needs and potential impacts to other lease/access arrangements. Depending upon perceived risks to the program, it may be prudent to attempt to secure hunting leases under “in-kind” compensation arrangements and avoid direct cash payments to landowners given the potential exposure to all landowner arrangements.

Based on our findings, analysis, and discussion, the HRR Team developed the following goal for a Hunter Access/Lease Program.

Program Goal - Increase Hunter Recruitment and Retention by providing and securing hunter access to private lands that provide quality small game hunting opportunity in agriculturally productive areas near our Urban centers (Phoenix and Tucson) in a manner that does not compromise the viability of existing hunter-access arrangements with other private landowners, and that also does not provide increased liability exposure to the Department.

Explanation: The HRR Team evaluated strategies to increase hunter recruitment and retention through development of a hunter lease or hunter access program. One of the main barriers to recruitment and/or retention identified in our internal and external surveys and in national surveys is the lack of a local place to hunt. Another barrier identified results from limited big game hunter opportunity in Arizona, and the lack of consistent, guaranteed opportunity for big game. The HRR Team evaluated using hunting leases to provide more consistent hunter opportunities (focus on small game species) designed to recruit and retain hunters.

Any new program to lease properties, such as agricultural fields, for hunter access must not jeopardize our current Access Program agreements. The HRR Team recommends an approach that expands on current lease agreements to include additional landowners and partners near our larger urban centers (Phoenix and Tucson) where specialized small game hunt opportunities could be offered to general hunters, including new hunters. However, if and when demand for such hunting opportunities exceeds the supply, the Department may consider restricting these specialized hunts to: 1) Junior Only Dove Hunts, 2) Family Hunting Days, 3) Mentoring Programs, or 4) special hunting opportunities and incentives within our Hunter Education Program. Some needs for “general” hunting opportunity also need to be addressed, and may generate more support from the majority of our constituents.

Because costs are very unpredictable and depend upon individual lease agreements and property owners, total number of lease agreements per year, etc., a pilot program will likely be necessary to assess the overall time/cost/value of a Short-term and Specialized Hunting Lease Program. For purposes of this analysis, the HRR Team based our T/C/V analysis on figures provided by the Landowner Relations Program and overall advantages/disadvantages of private property leases.

Costs: The process owner for development of the short-term leasing/access program should be the Landowner Relations Program in SSDV. Regional personnel will be required to pursue initial contact with individual property owners and possibly provide some logistical support (dependant upon number of individual lease agreements; acreage enrolled, signage, patrol, assisting with specialized hunts, etc.). Information and Education Branch (new Hunter Recruitment and Retention Coordinator, Recommendation #7) will be responsible for Program outreach efforts and implementation of specialized hunts as appropriate (Family Hunting Days, Mentoring Program, and special hunting opportunities and incentives within our Hunter Education Program). Time costs associated concerning a pilot program will be minimal and may be performed through existing duties (as per LRP personnel). Initially costs associated with time will be neutral. Any expansion of the program will result in greater time and funding commitments.

Hunter access programs in other states make lease payments ranging from \$0.50 to \$5.00 per acre, and are typically available to all hunters for a species-specific opportunity. Most agreements lease the property for the entire hunting season, depending on species. One option for leasing a property for the entire season could be to offer opportunity for a portion of the season. In addition, recent Department personnel discussions with some Maricopa County landowners suggest lease payments made to landowners in other states may not be adequate to open their lands. *To the extent that the Department considers any form of direct hunting lease payment to landowners*, while also taking into consideration the economic return of small game hunting to the Arizona economy, the following payment rates would likely be justified for a landowner of a 100-acre farm enrolled in any such program:

- \$2.00/acre for 4 user days,
- \$3.00/acre for 6 user days,
- \$5.00/acre for 10 user days.

Further evaluation of whether or not direct payments to landowners is an appropriate strategy for the Department given the potential exposure to other existing agreements with other state landowners. Furthermore, determination of accompanying market lease rates would need to be completed, which will likely vary depending upon property locations. Rates will obviously depend on individual agreements with potential cooperators, budgets, the number of cooperators, and miscellaneous other coordination issues with local Natural Resource Conservation Districts. Variations in lease contract length and payments will increase program complexity and program costs. Charging hunters a fee for a program of this type (stamp, etc.) may result in program costs being partially or fully recovered. For example, Texas currently charges hunters \$48 to participate in their short-term lease program, but this is far in excess of other programs

benchmarked. Given current political climate and the proposed license fee/ceiling adjustment increases, adding another cost to hunters will need to be carefully evaluated.

The HRR Team also evaluated requiring landowners to modify existing farm practices to improve small game habitats and abundance in order to qualify for the access program. The following analysis is applicable if current agricultural practices (type of crop, harvest schedules, rotation, etc.) are altered to maximize small game hunting opportunities. If the Department requires such manipulations, we likely will need to accommodate those changes through some form of incentives to landowners, including doing the manipulation ourselves. Currently the estimated cost of using Department personnel and equipment to revert cropland back to native range seeding is \$75.00-\$80.00 per acre depending on location (WHIP cost list 2004). The current rate for the Department to lease cropland from the landowner for the length of the contract is \$100.00/acre. The total one time cost to the Department for this example would be \$46,000 to lease and replant/modify 80 acres of cropland (5 year contract period). Because of partnerships with the landowner and other agencies (WHIP), the cost may be reduced to \$14,000, with half of the cost paid by the landowner. The total expenditure by the Department would then be \$7000. Cost/Benefit ratio is 6.6:1; for every \$1.00 spent by the Department, the public and/or wildlife realize \$6.57 in benefits.

Landowner liability regarding hunter access has been a concern in states developing hunter access programs. Most provide through statute some form of landowner immunity for recreational access. Arizona has a similar statute (A.R.S. 33-1551) that provides landowners with immunity providing they are not guilty of willful, malicious, or gross negligence. Landowners may not charge a fee for this access. However, a public entity may charge a fee to the user to offset the cost of providing the recreational opportunity. An opinion from the Attorney General's Office should be sought to determine if these costs may include lease payments to landowners.

Parcel selection for such a hunter access/leasing program should consider location, species to be hunted, acreage, dates open to public hunting, etc. Location will need to be considered in light of annexation/incorporation. In some incorporated areas, such as Yuma, limited hunting opportunity may exist. However, other municipalities, such as Peoria, are taking a much harder line when it comes to discharge of firearms within annexations.

Value: As with Wildlife Management Areas, an analysis of values attributable to private land hunt leasing program recommendations cannot be readily evaluated using traditional measures. Like the preceding recommendation, value to our core small game hunting constituents will be the greatest, with only minimal value gained by peripheral constituents. Below is a table of potential positive and negative values resulting from such a leasing program.

VALUE	IMPACT
Supplemental income for landowners (if payments are made)	Positive
Management/control over visitors and activities of each	Positive
Minimize impacts from poaching, trespassing, vandalism	Positive
Help to minimize crop depredation by wildlife	Positive

VALUE (CONT.)	IMPACT
Provides possible labor force for habitat improvement projects (hunters)	Positive
Programs tend to be somewhat “self-policing”	Positive
Results in better hunter/landowner relations	Positive
Reduces current hunter density, better distribution of hunters	Positive
Reduction in hunters density results in improved perception of safety	Positive
Potential for improved wildlife habitat, management, and abundance game species on private lands	Positive
As currently proposed, will increase hunting locations close to urban centers	Positive
Offers a location where hunters are welcome	Positive
Liability risks may be greater for landowners (lack of hold harmless rule)	Negative
Perceived increases in hunting costs stemming from landowner incentives	Negative
Requires that personnel have strong communications and business management skills, regarding landowner contacts	Negative
Time (agreements, signage, setting up/conducting specialized hunts, patrol, etc.)	Negative
Shift from conventional practices (agricultural production vs. wildlife)	Negative (landowner) Positive (wildlife)
Hunter recruitment through specialized and/or general hunts (Junior and Mentoring Programs, etc.)	Positive
Hunter retention through specialized or general small game hunts	Positive
May negatively affect current Access Program (minimized by short-term and specialized hunts)	Negative
May be combined with wildlife property acquisitions and County/Municipality efforts to retain green space	Positive

The U.S. Fish and Wildlife Service’s 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation reports economic returns to the state as \$51/day/hunter for small game hunting activities in Arizona. This does not represent monies that return to the Department in the form of license sales, rather the total amount spent by the average hunter on trip related expenses (fuel, ammo, food etc.).

Justification: Short-term and specialized hunting leases near our urban centers will provide additional venues for activities that support recruitment of new hunters (especially to the extent that targeted hunts are offered), while also serving to retain experienced hunters by providing convenient, one-day turnaround areas having small game hunting opportunities. The following concerns, expressed by external survey participants, can be addressed through the implementation of a short-term and specialized leasing program as described in our recommendation:

- 90% consider *not being drawn for big game* as a barrier; 41% consider small game hunting as a substitute in years that applicant does not draw big game tag
- 65% consider *urbanization/development of hunting areas* as a barrier to hunting; this recommendation may provide additional hunting areas close to these urban centers
- 59% consider *lack of time* as a barrier; this recommendation may lessen travel time from urban centers
- 38% consider *access to hunting land* as a barrier; this recommendation will provide additional areas that may currently be closed to hunting access
- 20% consider *distance required to travel* as a barrier; this recommendation may lessen travel distances for some hunters (consider >50% of respondents from Maricopa and Pima counties)
- 51% consider *over crowding/too many hunters in the field* as a barrier; leases may provide additional management/control over number of visitors to the property
- 81% consider *providing hunter easements and access* as moderately or very important services in retaining hunters
- 66% consider *leasing/purchasing lands for hunter access* as moderately or very important services in retaining hunters
- 79.5% of respondents with concerns regarding access answered *limited somewhat* or *greatly limited* in the Department's Game Branch draft report on Arizona Hunter Demographics and Preferences

Example Program: The HRR Team benchmarked with several states concerning hunter access and leasing programs. These included Oregon, Wyoming, South Dakota, North Dakota, Nebraska, and Texas. A summary of the Texas Short-term Leasing Program is provided as an example. The Texas program was selected because it appears to be more flexible from both a Department and landowner standpoint. In 1994, the Texas Parks and Wildlife Department began a pilot program to benefit both hunters and agricultural producers in Texas, known as the Short Term Public Hunting Lease Program. Although our recommendation does not directly copy TPWD, the costs of operating a leasing program may be similar.

- Program began in 1994 as a Juniors Only Dove hunting opportunity. Has since expanded to include other species of small game.
- Quite variable regarding individual lease agreements, both from a compensation and temporal standpoint.
- Greater flexibility or control on who qualifies for access.
- Resource Commitment: \$219,000 Annual Budget; Staffing at 1 Full-time employee (Hunting Coordinator) plus field coordination funded through existing duties; 140 lease agreements per year.
- No contributing partners (either time, personnel, or funding) at this time.
- Future plans are to continue, as the overall program has expanded (participants and hunted species) to 1.2 million acres, through 148 lease agreements.

Example Program, cont.

- Requires participating landowner to purchase a *Hunting Lease License* – Individual landowner fee – less than 500 acres, \$75; 500-1000 acres, \$140; 1000 or more acres, \$240. Co-op fees – less than 10,000 acres, \$60 plus \$5 per participating landowner; 10,000-50,000 acres, \$120 plus \$5 per participating landowner; more than 50,000 acres, \$240 plus \$5 per participating landowner. Wildlife management area fees – less than 10,000 acres, \$36 plus \$5 per participating landowner; 10,000-50,000 acres, \$72 plus \$5 per participating landowner; more than 50,000 acres, \$144 plus \$5 per participating landowner. Leasing of hunting rights throughout Texas is the culture of that state, hence these fees. All landowners who lease their lands for hunting activities (whether sponsored by TPWD or not) are charged this fee. This may not be applicable to Arizona (i.e. why should I pay you anything to participate in your program).
- Liability risks: Texas legislature enacted statutes that offer liability protection to landowners, providing the total income derived from the leasing activity does not exceed four times the annual ad valorem taxes assessed on the property for the prior year. In addition, each permit holder is provided with a disclaimer of liability whose acceptance holds both TPWD and the landowner harmless from injuries that may be incurred on the property as a result of public hunting activities.
- Hunters are required to purchase a \$48 public hunting land license. Only those hunters purchasing this license are provided a map booklet showing locations of these lands.
- Hunting access is foot-traffic only, unless otherwise noted. Some allowances are made for disabled hunters (may use ATVs on certain areas).

RECOMMENDATION #3 - Implement enhancements to the Department's Hunter Education Program that promote course convenience and flexibility to customers, and that further institute adaptive management and evaluation practices that allow for continuous improvement.

The HRR Team recommends that the Department pursue the following enhancements to the Hunter Education program that are intended to facilitate hunter recruitment and retention, and provide ongoing refinement of the program as hunter recruitment/retention programs mature and evolve. IEED is recommended to dialogue with existing Hunter Education Program instructors in advance of implementing any changes to obtain input on the implementation and integration of these proposed changes into the existing hunter education framework.

1. Develop and implement an internet-based Hunter Education program that meets International Hunter Education Association certification requirements and provides increased convenience and flexibility to customers seeking to complete the Arizona course.
2. Adopt refinements and improvements to the current Hunter Education course in order to reduce the course length to the national average of 14 hours (and maintain IHEA

- certification), while improving the effectiveness of curriculum-delivery by volunteer instructors to address the following program weaknesses:
- a. Improve quality and consistency of presentation by volunteers;
 - b. Improve time management - Instructors staying on task and respecting time of students;
 - c. Improve Instructor interpretation and presentation of Title 17 issues and limit such presentation to critical and appropriate information.
 - d. Identify areas of the state where demand exceeds supply and increase the number of classes to provide greater flexibility and convenience to those customers.
3. Evaluate implementation of a standardized module approach for the program that yields improvements in course flexibility and scheduling to customers, whereby a student may complete defined modules from different instructors (in traditional classroom venue) over extended/flexible periods of time.
 4. Develop two separate classroom evaluations (adult versus youth) to improve the quality of program feedback to IED for purposes of refining course delivery and content through time. Student evaluations will serve as a measure in evaluating the effectiveness of Instructor training efforts (#3 above), by actively soliciting qualitative feedback (focused primarily through adult evaluations) from program graduates in the following areas:
 - a. Course content (effectiveness)
 - b. Delivery and organization (efficiency)
 - c. Flexibility of courses and class curriculum in relation to customer schedules
 5. Incorporate hunter education into sportsmen's clubs to foster community building and generate accompanying hunter retention/recruitment benefits, where feasible (refer to recommendation #8).
 6. Forward a recommendation to the Arizona Department of Education to lower the hunter Education certification requirement age from 10 to 9 without modifying minimum age hunting requirement to provide greater flexibility in completing required Hunter Ed certification in advance of hunt application deadlines (and otherwise minimize conflicts to youth who reach minimum age requirement during fall hunting seasons). Coordination with the Department of Education is necessary because AGFD chose several years ago to include hunter education statutes under the charge to the Department of Education in case AGFD ever wanted to pursue offering hunter education in the schools.
 7. Utilize public survey/evaluation information sources (including course evaluations and web-based surveys) to provide adaptive management information regarding course flexibility, convenience, content, delivery, etc., as deemed necessary.

Explanation: Customer surveys reveal that the base program appears to meet the needs of the Department and the public, and is not widely perceived as a barrier to recruitment. Nevertheless, the HRR Team did identify areas in which changes could be made to improve the Hunter Education Program. These changes were identified during the customer needs assessment, and the employee survey. I&E Staff identified issues that have been raised by course evaluations and public contact. These issues continue to be dominated by course convenience and flexibility (time, location), and an age problem associated with providing a course for a 10 year old that has a scheduled hunt.

Costs: Development of an internet-based hunter education course would require an upfront investment to establish the program, and modifications to existing administrative processes in order to ensure accurate certification of students going forward. According to the Education Branch, elements 2 through 7 of Recommendation #3 would become part of the Hunter Education work plan that would involve a rotation of project priorities, with no significant additional costs being incurred.

Value: The recommendation addresses issues identified during customer needs assessment as being important to customers regarding this program. To the extent the Department is able to address these issues, recommended modifications will improve customer service and satisfaction. Recommended changes will strengthen community building among our constituents.

Justification: The Hunter Education program has gone through substantial evolution from 1955 to the present day to meet the demands of the customers and to provide good, sound educational practices. While Arizona hunters reached through the HNA survey did not reflect an overwhelming need to shorten the course, the HRR Team feels it is necessary for the Department to actively solicit and seek out improvements in course scheduling flexibility and time-convenience based on other HNA responses that highlight this as an issue. Suggested modifications have come from HRR Team discussions and informal surveys with 750+ volunteer instructors, which should allow for a more efficient and course to be taught. These modifications include dividing the program into distinct modules that will offer greater course and time flexibility to customers. These modules would become standardized so that an individual could complete various sections of the class through different instructors at different times/location over a predetermined timeframe. This course flexibility will provide the convenience customers are seeking while also preserving the social, interactive and “community-building” aspects that the existing, longer course provides.

Respondents from the HNA identified the following Hunter Education Services as important (percentages represent those that identified service Somewhat or Very Important):

- Providing Hunter Ed in different venues (81%)
- Provide web-based lessons and training – not HE-certifiable (72%)
- Providing advanced Hunter Education (66%)
- Making class schedules more flexible (62%)

Conversely, respondents felt the following services were not important (percentages represent those that identified service as Slightly or Not Important At All):

- Shorten 20-hour course length (75%)
- Eliminating the requirement for first time big game hunters (92%)

RECOMMENDATION #4 – Charter a Team to identify improvements in the delivery of hunting information through the annual Regulations Booklet that is specifically sensitive to the perspectives of novice/new hunters.

To promote ease of use by new/first-time hunters, facilitate orientation of new hunter/customers to the maze of hunting requirements, regulations and opportunities, and improve the delivery of hunting information to all customers, the HRR Team recommends that a task team be chartered to evaluate, identify and recommend specific modifications to the Department's hunting regulations booklet. This task team should include a member that can provide the perspective of a first time hunter, possibly an external customer, and agency staff who can reflect production cost/benefit perspectives to the task team. In addition, the proposed Team can also evaluate and recommend processes, which can be incorporated through the 5-year rule review system, to refine and improve existing Department regulations in an effort to reduce/eliminate unnecessary regulatory complexity.

Team Goal: The primary goal is to produce a booklet/product that is more accommodating to the perspective of new/first time hunter by improving the layout and formatting in a manner that promotes ease-of-use and ready access to basic information. Key formatting and content objectives and ideas include:

- Outline and summarize information early in the booklet that address hunters' main needs/questions in as simple a fashion as possible (i.e. what do I need to go hunting and stay legal?), and do so in a manner that references more complicated and regulatory stuff that can be moved to other pages and sections appearing at the end of the booklet (provide all necessary regulation/legal information such as rule language).
- Utilize color-coded paging, page tabs or other features to facilitate customers easily locating key sections (e.g. licenses/tag requirements, big game hunts/draw, small game section, regulation/rule language, etc.).
- Based on the preceding evaluations, forward recommendations on what can be moved, changed, grouped or deleted to improve booklet content, while jointly minimizing production costs.
- Evaluate the feasibility/value of separating big and small game into separate booklets.
- Benchmark other states regulation booklets/presentations, evaluate how big and small game hunting regulations are combined/separated, and identify useful concepts and approaches that will aid AGFD.

Additionally, the Team would provide recommendations on approaches that can be incorporated into the existing 5-year rule review process to achieve improvements and refinements in the Department's overall regulatory structure. Such improvements and refinements would be aimed at eliminating unnecessary, non value-added regulatory complexity.

Explanation: HRR Team members were advised that a Team was chartered in 2003 to accomplish the task of simplifying the Hunt Regulations and Fishing Regulations booklets. The Department received positive customer feedback from the modified Fishing Regulations booklet; however, the perception is that the Hunting Regulations booklet is still too complex and confusing, especially when considering the perspective of the uninitiated, first-time hunter.

Cost: The estimated cost for a team to be chartered would be \$24,500, which includes 10 team members expending an estimated 75 hours each. The previous hunt regulations team (Chartered February 2003) consisted of 10 members who met 6 days with 2 days of non-meeting work. Additional costs may come in the form of printing and layout.

Value: Successful modifications will generally improve customer service and will address the Department's need of focusing on delivering information to new hunters in a manner that promotes hunter recruitment/retention. There is a wide perception (including within the Department) that the regulations booklet is too complex and can be intimidating to new and experienced hunters. The delivery of regulatory requirements and information is a fundamental element of the regulations booklet, but the HRR Team feels a fresh evaluation of the manner/approach in which this information is delivered would be beneficial to building a customer base. This recommendation directly or indirectly supports several other recommendations including numbers 1, 4, 5, 6 and 9.

Justification: While it is recognized that the language regarding rules, unit boundaries, etc, will most likely need to remain somewhere in the booklet for legal purposes, that does not prohibit presenting basic information in layman's terms and segregating information, within the booklet, in a manner that promotes improved understanding and access. Information that is basic and essential to a hunter entering the field will facilitate understanding and participation by new hunters in particular. Benchmarking in other states, Colorado and Texas in particular, identified that simplifying the regulations manuals was a valuable tool in recruiting new hunters and retaining existing ones. Colorado identified that it takes nearly seven years for new residents to become comfortable enough to hunt. The Department's biannual 'Trends' survey indicates this holds true in Arizona as well. Furthermore, simplifying hunting regulations was a significant objective in "Preserving Texas' Hunting Heritage" which is a strategic plan for ensuring the future of hunting in Texas.

The complexity of the regulations booklet was frequently reported in the employee survey as an identified barrier to external customers as well as a barrier to their own hunting participation. The Hunter Needs Assessment also reported this as a significant issue, with 25% identifying that the regulations booklets were too complex, and 44% indicating that simplifying the regulations was somewhat to very important. These percentages represent the views of experienced hunters, a majority of which consider themselves "avid" hunters. If the survey had been able to target new hunters or those interested in taking up the activity, these percentages would have presumably been higher.

Potential Negative Impacts: As stated above, there was a team chartered in 2003 to accomplish this task, therefore, this may result in some conflict and/or the potential for some staff being directed to "redo" an assignment. The HRR Team is not labeling the previous attempt a failure, as it recognizes the inherent difficulties of the task, but still believe modifications can be made to the regulations booklet that would satisfy the "new hunter" needs stated above.

RECOMMENDATION #5 – Charter a Team to evaluate existing big-game draw/hunt structures and hunt recommendation processes, and to identify practical alternatives aimed at maximizing statewide hunting opportunity on a sustainable basis.

The HRR Team recommends that a task team be chartered to examine potential Draw/Hunt Structures and hunt recommendation process modifications to increase big game hunting opportunities across a broader base of hunt applicants. This evaluation will include exploring and quantifying potential combinations of hunt structures and draw parameters that focus on increased big-game hunting opportunity across a portion of the state’s Game Management Units (GMU) while maintaining long-term sustainable management of big-game species. (The following outlines suggested evaluation parameters and an explanation/justification for each sub-recommendation, followed by an explanation/justification, cost, value and justification for the entire recommendation).

1. Evaluate feasibility of extended seasons in various GMUs for youth big game hunters as a way to increase hunter success (and provide a positive threshold experience).

Explanation/justification: This would involve planning a time or separate hunt to allow unsuccessful youth hunters to continue to hunt and potentially harvest an animal after their original hunt had closed. Based on information from States that were benchmarked, simply providing the opportunity to hunt is often not enough. These new hunters often need a “positive threshold experience” to engage them beyond their first effort. Increasing the time they have to hunt and successfully harvest an animal will increase the likelihood that they have a positive experience.

2. Establish draw priority for first time youth hunters in Junior Hunts to avoid lengthy delays in providing big game hunting opportunities to recent hunter education graduates.

Explanation/justification: When a first-time youth (Hunter Education graduate) applies for a Juniors Only hunt permit they would have priority over youth hunters who have had a tag in prior years and (potentially) youth hunters who have not taken hunter education. This recommendation is intended to augment the previous recommendation in providing a positive threshold experience soon after a youth hunter completes the hunter education course to keep them engaged long enough to become retained. This also addresses the perception that many Juniors Only permits go to the same hunters year after year until they are too old to participate at the expense of youth hunters who have never drawn a permit.

3. Analyze the impact of reallocating harvest from high-success rate rut hunts to other, lower-success rate hunts in order to maximize hunt opportunity across more applicants each year (in appropriate GMUs).

Explanation/justification: This addresses the perception that there are too many hunts during rut periods when hunt success is generally high resulting in fewer permits. There may be a biological component to this regarding effects of hunting during rut periods on

reproductive success, but social factors will be the primary consideration. The number of available permits can certainly be increased using this strategy but it will potentially create conflict with some hunters and the outfitting industry.

4. Review and evaluate the effectiveness of existing species and alternative management guidelines and the processes through which they are applied, and recommend improvements that will result in the consistent application of these guidelines to maximize hunt opportunities. To maintain appropriate diversity of hunt opportunity, any such guidelines would best be applied under a regionalized approach, rather than a uniform, statewide fashion.

Explanation/justification: This addresses the perception that the Department's big game management has become too conservative and geared towards trophy management. This is largely a social issue, with regards to both internal and external customers. Species management guidelines should be reviewed to ensure that the guidelines do not cause big game hunting opportunities to be held artificially low. In addition, the hunt recommendation process should be evaluated to provide adequate quality control and accountability to ensure guidelines are consistently followed.

5. Evaluate the feasibility of providing draw results for some species earlier in the year to allow customers more time for scheduling and planning of hunting outings. Where possible, stratify draw/results based on completion and approval of the various hunt recommendations packages.

Explanation/justification: This concept was identified in the Hunter Needs Assessment, the employee survey as well as other various listening posts where customers have suggested that the draw be conducted earlier to give them more time to plan trips. While this can't be done for all species due to survey seasons and commission logistics, it can be accomplished for some. This would likely result in more draws. Special Services Division has informally said that this can be accomplished fairly easily and may in fact relieve some pressure from the current draw process.

6. Modify draw to address default credit cards where tags will go to next lowest random number generated from the initial draw.

Explanation/justification: Currently, it is possible for customers to be unsuccessful in the draw for a particular hunt, only to have the Department sometimes experience leftover tags being generated for that hunt after the draw (typically due to default credit cards from successful applicants). Rather than sending those default tags sent to the leftover bin, these tags could potentially be automatically issued to applicants having the next-lowest random number in the initial draw (i.e. the person who would have been issued the next tag). While this approach does not generate more hunters in the field, such a system would improve hunter satisfaction with the draw process and accommodate the purpose of maximizing available draw opportunity to applicants.

Explanation: It became apparent through the Hunter Needs Assessment that any recruitment efforts that focused on providing big game opportunities to new hunters would be met with resistance from current hunters. Due to the habitat types in the state, the limited distribution of big game species, climate conditions and increasing human population, it would be unrealistic to attempt to equalize supply and demand by increasing the number of animals and/or tags. Therefore, this recommendation was developed in attempt to increase the number of individual hunters who do get drawn for a tag. The intent is to increase customer satisfaction and retention by increasing the number of big game hunters each year, while recognizing that we still will not be able to ensure every big game hunter in the state is drawn.

The recommendation to charter another team to complete this task was due to the complexity of the social and biological issues related here, as well as the number of work units that would need to be involved.

Cost: The estimated cost for the task team would be \$35,000, which would include approximately 10 people working an average of 100 hours each. It is recognized that some of these issues may generate significant internal/external conflict; therefore, it may be necessary to assign someone of significant authority, possibly as high as a member of executive staff, to be team leader and/or sponsor.

Value: The financial value of this recommendation would be realized through the reduced erosion of hunters and big game applicants (i.e. hunter retention), which is difficult to quantify with existing data, or lack thereof. However, the importance of these issues to hunter satisfaction can be quantified from the Hunter Needs Assessment where 90% of the respondents indicated that “not getting drawn for a big game permit” was the largest barrier to their continued participation in hunting. In addition to the real gains in the terms of the increased number of individuals who might get drawn each year, there may be additional value in hunter retention by communicating to the current hunters that the Department is addressing their concerns.

Justification: It is often stated and assumed that the low number of big game permits issued in Arizona is a result of depressed populations, habitat type, habitat quality and distribution, as well as climate conditions. While many of these points are valid, they may make it easy for managers to attribute the limited number of permits (and accompanying customer dissatisfaction) to these uncontrollable issues, without ever evaluating alternative hunt management approaches. Over time, such a situation may create distrust with hunting customers when the justifications used to validate management decisions become standardized and the Department appears less than interested in exploring potential remedies.

Potential Negative Impacts: Many of the recommendations above involve a shift in management tradition/culture and, possibly, Commission direction, which will likely result in some internal and external conflict. There are most certainly a host of political and social issues associated with this approach, despite its merits in addressing equally existent hunting opportunity issues.

RECOMMENDATION #6 – Institute special licenses that promote participation of new hunters through family/friend social structures, which serve to reinforce and support Department hunter recruitment/retention programs and the individual pursuit of general hunting opportunity.

The HRR Team recommends that select licensing structures be implemented to promote hunter recruitment and otherwise encourage public participation in hunting. The following license enhancements can be deployed and maintained as long as they achieve favorable public acceptance and hunter recruitment/retention objectives, but all have been consciously constructed to minimize financial impacts to Department hunting license sales:

1. Continue pursuing the development of a Family hunting license. The intent is to generate, at a minimum, a family social support structure for those members that choose to participate and to further allow for the development of family hunting traditions.
2. Attain authority to waive small game (general hunting) license requirement for participants of appropriate Department-sponsored educational programs (modeled after the aquatic educational program). These waivers would not apply to big game hunting. The intention of this recommendation is not to launch an extensive give-away program in order to recruit participants, but to accommodate entry to those people, in appropriate Department-sponsored hunt venues, who may otherwise balk at the opportunity of participating because of licensing requirements. In pursuing such hunt waivers, the Attorney General's Office has advised that the Department follow the model of R12-4-311, which exempts a fishing license for Department fishing clinics.
3. Create a free one-day *small game* license coupon that accompanies each general hunting license. The concept would attach one (or possibly more) coupon to each resident general hunting license, which would allow licensed resident hunters to take a non-licensed companion hunting for one-day. The coupon would be signed and dated by the companion to prohibit being used multiple times. In order to hunt, the unlicensed companion would have to be in close proximity with the licensed hunter that the coupon came from. This feature would not be applicable to big game hunting and the intention of the program is similar to #2, above.

The Attorney General's Office has advised that Department has two options available to it in developing such a "coupon":

1. Create a new license in statute, and indicate in the statute that the coupon-license is valid when signed and dated by the "guest" hunter, and indicate in the statute that the license is valid when signed and dated (for date of hunt), and the coupon-licensee must be accompanied by a person with a general hunting license.
2. Establish, by rule, an exemption from a hunting license for any person in possession of a valid one-day waiver coupon. A valid waiver coupon is signed and dated by the user and will only be valid for that date, and the exemption only applies when the person is accompanied by another person possessing a valid general hunting license.

The AG's Office further advises that a stamp may be required for the small game coupon if the coupon is created as a new license. If the coupon serves as an exemption from a license, however, then no stamp is required because the purpose of the stamp is to validate a hunting license. Federal law may require stamps for any hunter, whether licensed or exempt and the AG's Office advises that further review on federal law requirements will need to be conducted in preparing statute or rule provisions that address this coupon feature.

Cost: The cost to make the above license changes would be minimal as the Family Hunting license is already being pursued by the Department in a legislative Bill. Authority to waive the small game license requirement can be accomplished by Commission Rule, similar to R12-4-311, D – exemptions from requirement to possess an Arizona Fishing License while taking aquatic wildlife. Wherever the Department has been given authority to issue a free license (e.g., A.R.S. § 17-336, Pioneers and disabled veterans), this authority has come from statute. Consequently, if the Department implements the “coupon” program it would have to go through statute or rule processes and accompanying costs would be incurred. Also, there may be a perceived law enforcement cost or lost revenue with the “coupon”. There may be some indirect costs including the perception that non-licensed hunters will try to use the coupon multiple times until checked by an officer or some current customers may forego buying a license and try to use their “buddy’s” coupon all year, even if that only includes one trip per year.

Value: Studies show that the family is the top recruitment tool for hunting participation. The Family hunting license will allow families to introduce their children to the activity at a lower cost. The Department has already acknowledged the value of this recommendation by pursuing it in current legislation.

The ability to waive the small game hunting license requirement strongly supports recommendation #8, the creation of a full-time hunter recruitment and retention coordinator. A large part of this position's recommended duties would include taking people into the field to teach them how to hunt. Being able to waive the license requirements at Department-sponsored programs (similar to fishing clinics in the Aquatic Education Program) eliminates one more significant barrier to getting these people to participate.

The hunter “coupon” has great potential in recruiting new hunters. The retail industry's use of “coupons” to recruit new customers offers a good benchmark for the potential of this service. Furthermore, nearly all hunters, regardless of what age they started hunting, did so because a family member or friend took them. The “coupon” would make it even easier for someone to be introduced to the activity because they would not have to go through the trouble and/or justification of buying a license for something they're not sure they will ever use again. The “coupon” will allow them to make up their mind after they have gotten a taste of what hunting has to offer, at relatively no cost and no commitment. To further illustrate the potential value, an actual example of this happening is when a team member took a non-hunting friend dove hunting two years ago. The non-hunter, in his mid-thirties, had never hunted before nor had any interest in doing so, but decided to go after some encouragement and the team member purchasing a license for him. The non-hunter immediately took an interest and the day following their hunt he

purchased a shotgun and has purchased a license and hunted every year since. While this example is purely anecdotal, the implications are real and further supported in the justifications below.

Justification: The Family Hunting license was the top rated hunter retention tool as identified by 62% of the respondents in the Hunter Needs Assessment. Family is also identified as the most important tenet of hunting recruitment in the “Factors Related to Hunting and Fishing Participation Among the Nation’s Youth” (Duda, 2003). The small game hunting license waiver at Department-sponsored events is justified by its support of recommendation #8. Providing mentor programs, providing equipment and providing more opportunities for “first time” hunters were all identified in the Hunter Needs Assessment as important services to recruit hunters.

The hunter “coupon” is justified in that nearly all respondents indicated they started hunting because someone else took them. This was the finding in the Hunter Needs Assessment and virtually every survey conducted on the subject. Providing mentoring programs was identified by 47% of survey respondents as an important service. Additionally, providing a hunter “coupon” service was identified by 44% as an important recruitment tool. Respondents were already engaged hunters, had non-hunters been surveyed this response would likely be higher. A clear majority (73%) said they would be willing to take a non-hunting friend with them if they (the non-hunter) did not have to purchase a license. In 2004, over 60,000 resident general hunting and 71,000 resident combination hunt/fish licenses were sold, potentially creating more than 130,000 mentors. In terms of residency, the original thinking was that resident hunters would introduce resident non-hunters to the activity. Different cases could be made here, including the revenue lost from non-residents using the coupon. On the other hand, it may not matter if the non-hunter is a resident, even if they never hunt in Arizona again, they may hunt in their home state or at least be on the “positive side of neutral” toward hunting related issues. The “coupon” fully reflects and improves upon the “Take One, Make One” hunter recruitment campaign used in South Carolina. In addition, this recommendation supports a recommendation #8 sub-recommendation referring to the creation of sportsman’s clubs, where the “coupon” would provide clubs another tool in promoting hunting participation in their communities.

Potential Negative Impacts: While there may be a law enforcement issue resulting from the “coupon”, the same issue exists with any license requirement and enforcement would be no different than current license checks. For some types of small game hunting (dove, waterfowl, etc) there would still exist some licensing requirements (stamps), which potentially could cause confusion. There may be potential safety issue/perception by allowing or encouraging non-experienced hunters in the field, however, the “coupon” may actually increase hunter safety in that the first time hunter will have to be accompanied by a licensed hunter.

In terms of lost revenue, current hunters are likely still going to purchase a license as it was not a barrier and they likely wouldn’t risk it for something they were already prepared to pay for. On the positive side, “coupon” users may become license buyers after they acquire an appreciation for the sport.

RECOMMENDATION #7 – Incorporate enhancements to the Department’s web page that promote and support hunter recruitment/retention programs and activities, and provide value-added information to customers.

Incorporate user-friendly enhancements/approaches on the Department’s web page that are directed with the new hunter in mind (uninitiated first time hunter or parent of youth hunter). These features would primarily target hunter recruitment efforts and would be incorporated to support other efforts/activities aimed at promoting hunter recruitment/retention, including other recommendations outlined herein. Primary recommended web-page enhancements include:

1. Incorporate GMU updates having a consistent and standardized format that promotes ease-of-use and simplified/timely updating (prompt key topical information and avoid exhaustive narratives). Require annual revisions to GMU updates by August 15th of each year, which updates including:
 - a. Small game outlooks and information on general hunt strategies;
 - b. Generalized information on where to hunt for various game species;
 - c. Other information that is relevant to the hunting experience (weather/road conditions, best times/places, boundary issues, etc.).
2. Add a list of shooting ranges on the web page.
3. Create a one click away New Hunter Index page, having the following suggested links and reference sources:
 - Home study program for hunter education (hunting ethics, safety, field facts, etc.)
 - Concise guide on "How To" hunt different species
 - Outline of basic hunting needs (what do I need to start hunting in terms of permits, licenses, gear, etc.?)
 - Link to game management unit information and associated access tips/information
 - Schedule of wildlife events and other sporting events
 - Youth hunting activities, events and programs
 - Hunter Education schedules
 - Information on hunting weapons and techniques (a printable page – industry sponsors?)
 - Skill seminar descriptions and schedules (NGO sponsors or links?)
 - Hunting permit, license, draw requirements and process (from basic and easy to understand start)
 - Basic recipes and field preparation/handling information, including game meat preparation and nutritional value reference material
4. Create a youth interactive page
 - Provide links to any appropriate web-games, Hunter Education information (above), Junior Hunt program information, Jr. Hunt photo-gallery, Wild Kids, etc.
 - Incorporate links to other Department pages, NGO, industry and sporting websites, as appropriate in a manner that compliments Department hunter recruitment/retention needs or efforts.

Explanation: The HRR Team feels web-based resources will serve as an effective support in implementing and promoting various other aspects and efforts that involve hunter

recruitment/retention. The Department's web page can readily provide easily accessible reference information to new hunters (and their parents/guardians) that can be tailored to their needs. More and more individuals are using the Internet as their primary means of research and obtaining information, as is demonstrated by the number of hits and downloads from the Department's website. All communities in Arizona have Internet connections, although some individuals may need to go to the public library to receive this information. Students from grade 1 – 12 are introduced to the Internet as part of their instructional curriculum.

Costs: The Internet is a relatively inexpensive means of communication compared to traditional outlets. Recently, the Environmental Education section added an interactive teacher-student site, with the cost of developing and implementing this site totaling \$10,000. The team estimates a very similar cost to implement the new-hunter web-page features, as described in the preceding.

Value: The most significant value of this recommendation would be to support all other recommendations by promoting other activities and programs directed at hunter recruitment/retention. More specifically, a web-based program would facilitate convenient access to hunting information and resources, provide an easily accessible source of material and information exchange between the Department and its customers, and would serve as a cost-effective alternative to distributing materials/information through other means (i.e. printing). Lastly, this web-based approach would provide an effective mechanism/venue for the proposed Hunter Recruitment/Retention Coordinator to launch and manage associated programs (see Recommendation #8).

Justification: All other recommendations would benefit from, if not require, some promotion and public outreach support. Specific information needs were also identified in the Hunter Needs Assessment. For example, "Access Information" (i.e. where you can hunt) was identified as important by 77% of the survey respondents. Repeatedly, customers, both internal and external, identified lack of knowledge as a barrier to participation in hunting. This web-based delivery tool will provide easily accessible materials for those interested in hunting, but are unformed on how to get started. Web based programs will serve as a primary delivery system for information from the new HRR coordinator (see rec. #8).

Potential Negative Impacts: The Department will likely experience some negative public feedback to promoting and featuring hunting related activities.

RECOMMENDATION #8 – Create a new Hunter Recruitment and Retention Coordinator position within IEED to launch and coordinate hunter recruitment/retention programs, activities and promotions.

Based on its research and evaluation of associated recommendations, the HRR Team feels that an effective hunter recruitment/retention effort by the Department will require long-term strategic vision and a programmatic management approach. This approach will require someone to ensure that programs/efforts are directed in a focused and methodical fashion in order to maximize coordination and achieve desired objectives (as opposed to distributing various

elements/assignments among existing employees). Accordingly, the HRR Team recommends that the Department create a full-time Hunter Recruitment and Retention Coordinator position within the I&E Division that will be responsible for developing, implementing, managing and/or monitoring the programs and activities that are designed to enhance hunter recruitment and retention:

Primary responsibilities of the new HRR Coordinator position would generally encompass coordinating the development and integration of hunter recruitment/retention programs, while also managing the implementation of accompanying programmatic recommendations outlined in the following.

1. Develop and implement a youth hunting program modeled after the Texas and Colorado Hunt Master Programs focusing on small game (big game hunts later if feasible) and that incorporates aspects appropriate to Arizona's resources and capabilities. The HRR Coordinator would initiate a mentored youth hunting program modeled after the Texas and Colorado (Huntmaster) Youth Hunting Programs, which generally incorporate the following five principles as a template:
 - a. **Provide a positive threshold experience**
 - i. Identify high quality opportunities such as dove leases, juniors only weekends, dedicated public land hunt areas, restricted private land hunts, etc. to provide high quality threshold experience.
 - ii. Work within program budget and partnership with NGOs to provide food, accommodations, etc. on mentored hunts.
 - iii. Provide skills labs, seminars to mentor youth to optimize participation.
 - iv. Provide training (hunting skills, shooting, etc) and activities (skeet shoots, hunter safety scenarios, etc.) during mentored youth hunts to maximize positive experience.
 - b. **Provide access to equipment**
 - i. Activate partnerships with NGOs and establish program/budget to purchase equipment for mentored youth hunts.
 - c. **Provide access to the resource**
 - i. Prioritize access to juniors hunt by modifying the hunt draw to give preference to first time hunters.
 - ii. Work with private landowners to identify high quality opportunities for youth hunts.
 - iii. Charge fees for youth hunts in a manner that covers expenses for licenses, tags, access, food, and other expenses that are deemed appropriate.
 - iv. Work to make program attractive to land owners by sponsoring or supporting legislation that provides limits on liability, tax incentives, etc.
 - d. **Provide a guide or mentor**
 - i. Utilize the Texas and Colorado programs as a template for building an Arizona youth program (modified to fit small-game emphasis with big-game hunts as a compliment, where practical) and expand this template to initiate a formal training program for mentoring program volunteers that

- emphasizes teaching skills/techniques, program safety and recognizing the important role of parents and guardians in supporting hunting experiences.
- ii. Work with NGOs to form cooperative nonpartisan approach to running program with the Department in a support organizational role and the NGOs in an implementation role.
 - iii. Construct a lesson plan/manual for mentored hunt program in cooperation with NGOs.
- e. Build social support and hunting traditions**
- i. Provide a setting in mentored hunts that emphasizes hunting as social/family activity.
 - ii. Ensure sensitivity to the fact that parents/guardians may be the true target in implementing effective youth mentoring programs.
 - iii. Allow time in program for participants to reflect on their hunting experiences (campfire celebration/reflection, story telling, community building and gratitude/thanks, establishing tradition, etc.)
 - iv. Market mentored youth hunt as a positive family activity that promotes engagement with the outdoors and serves to build family traditions.

ARIZONA MENTORED YOUTH HUNTING PROGRAM GOAL AND OBJECTIVES

The goal of the program would be to promote youth/parent participation in wildlife and hunting activities to recruit new hunters, preserve the hunting heritage in Arizona and promote positive public opinion toward wildlife conservation and hunting recreation.

Recommended objectives of the program would be to:

- Develop and provide structured mentored programs that encourage family participation and support, facilitate the recruitment of new hunters and preserve the hunting heritage of Arizona through present and future generations.
- Provide youth and their parents/guardians a positive, educational threshold experience in safe outdoor settings.
- Teach basic hunter skills and techniques, and incorporate lessons on values, ethics and responsibilities required of hunters, while promoting the highest ethical standards in hunting through program events/activities.
- Instill fundamental understanding of wildlife conservation and game management/hunting practices, and promote the role of the game management agencies in managing public wildlife resources (mission, funding process/methods, etc.)
- Develop effective partnerships with land managers that encourage wildlife habitat enhancement, management and access.
- Develop a statewide network of volunteers and sportsman's groups that assist with the implementation of all aspects of the Youth Hunting Program.
- Develop and provide necessary volunteer training programs that support the highest operating standards of the Youth Hunting Program.
- Provide short term/long term tangible goals and objectives to participants that lead to the acquisition of ethics, competencies, skills and experiences imperative to hunters.

2. Work with the Department's Volunteer Coordinator to develop a volunteer network through NGOs and sportsmen's clubs that will assist with the implementation of hunter recruitment and retention programs, including NGO youth activities and events. Key objectives include:
 - a. Identify program functions/components that could be shared with NGOs and begin efforts to build a volunteer base.
 - b. Work with other state agencies and internally to produce a formal training program modeled after the Texas and Colorado Huntmaster program training.
 - c. Establish a lesson plan to assure standardized and consistent message in recruitment and retention activities and to minimize partisan and political messages in program activities.
3. Serve as the Department's primary facilitator and coordinator in working with communities to develop sportsmen's clubs.
 - a. The HRR Coordinator is recommended to serve as the primary Department contact in exploring and pursuing opportunities to rekindle interest in local sporting clubs with individual communities utilizing local resources. This coordination is important to maintaining momentum and direction with independent groups on broader hunter recruitment/retention strategies employed by the Department and would assure that the implementation of recruitment and retention goals occurred in a consistent fashion at a statewide level.
4. Develop a skill seminars curriculum for hunters of all skill levels, initially focusing on skill seminars for new/novice hunters.
 - a. The HRR Coordinator is recommended to develop and coordinate the implementation of hunting skills seminars, aimed at both novice and experienced hunters, to provide the necessary skills to hunt an individual species under a variety of conditions. These seminars can be modeled after those offered through Colorado's "Huntmaster" program and can include instruction on topics such as: species natural history, field care of game, trophy care, wildlife habitat requirements, animal identification, hunting techniques, etc.
 - b. These skills seminars can offer opportunities to develop and refine skill sets associated with hunting including: rifle/archery/muzzleloader clinics, shotgun/bird shooting clinics, outdoor navigation, map reading, camping, outdoor cooking, etc.
5. Develop a mentoring program that promotes the integration of new adult hunters into existing hunt support groups. The HRR Coordinator is also recommended to investigate opportunities for offering mentoring opportunities to new adult hunters or experienced hunters that are new to Arizona.
 - a. Other states (South Carolina) have found that there is opportunity to recruit new adult hunters who may not be recruited into the sport without a link such as a mentor.
 - b. Some states (Colorado) have developed information that indicates that it takes a new resident hunter an average of seven years to be comfortable enough to hunt in their new state of residence.
 - c. Based on these Team findings and experiences it is apparent that new regulations and processes, unfamiliarity with new areas and a general lack of knowledge

- about the resource combine to make the challenge of hunting in a new state very difficult for both novices and new residents.
6. Develop and implement a pilot wing-shooters and a portable clay shooting program modeled after the Colorado program – with initial efforts being aimed at incorporating these sporting activities in association with Department or NGO activities that are conducive to promoting hunting.
 - a. The HRR Coordinator is recommended to establish a wing shooters/portable clay-shooting program that can be offered through the regions at a variety of different events/locals throughout the state. Colorado’s experience with a similar program reflects that exposure to these type of activities can sometimes serve as an important initial link to a person’s later participation in hunting (especially among youth participants).
 - b. Implementation of this program may best be accomplished by duplicating pertinent elements of the Colorado wing-shooters program that would require funding the purchase of several fully equipped trailers that can be utilized simultaneously throughout the state.
 - c. Volunteers trained through the proposed youth-mentoring program would also be valuable resources/assets to supporting the implementation of this type of wing-shooting program and would serve to offset Department operating expenses through time.
 7. Develop and actively monitor measurements of internal and external hunter recruitment and retention effectiveness and incorporate ongoing adaptive management processes in refining Department efforts.
 - a. Obtain and monitor 2005 IAFWA Grant reports pertaining to hunter recruitment and evaluate implementation of recommendations.
 - b. The Department should continue to monitor future IAFWA documents for measures of program effectiveness.
 - c. The Department should craft a plan to establish measurements of recruitment and retention related to implementation of program activities.
 - d. The Department should continue contact with benchmarked states to keep current on the development of measures of program activity effectiveness.

Explanation: The Hunter Needs Assessment and benchmarking efforts indicated that mentoring, youth hunting, shooting programs and hunter training seminars/clinics are important services in recruiting/retaining new hunters. Though the Department currently offers a variety of youth hunting opportunities, it is not fully capitalizing on opportunities to increase hunter recruitment and retention through a more programmatic outreach effort. This effort would incorporate youth hunting programs as well as other outreach efforts including school and other venue shooting programs, adult mentoring programs and hunter seminars and clinics. The program would seek to establish a volunteer network through coordination with NGOs to facilitate implementation and would support the establishment of local sportsmen’s clubs to drive statewide involvement.

The Department recruitment and retention program should provide a vision to potential new customers to facilitate recruitment and retention. This vision can be provided through structured outreach effort that tends to immerse new customers in every aspect of outdoor recreation.

Costs: The I&E division has developed a preliminary budget of \$200,000 to cover estimated costs to fund the Hunter recruitment and Retention Coordinator position and associated program elements. This funding would include \$62,000 to fund the personnel related expenses on an annual basis and ~\$140,000 to fund the program operating budget. This position meets the requirements of a Federal Aid position, wherein the Department will need to provide 25% of the above estimated costs (~\$50,000).

Program budgets from states benchmarked can be located in (Appendix C).

Value: The family is the top recruitment tool for hunting participation. As the population of the state has evolved the ties to hunting culture have been eroded. Often the linear family tradition of hunting has been broken by social/cultural changes. The Department must seek to identify opportunities to reestablish traditions of hunting within the population. The Department can reestablish hunting tradition by the aggressive implementation of mentoring programs imbedded in programmatic outreach efforts.

The Hunter Recruitment and Retention Program would provide our customers with a resource to establish and/or maintain hunting traditions by providing opportunities to learn hunting skills and to participate in hunting and associated activities. The program would seek to:

- Preserve the hunting tradition/culture in Arizona.
- Educate the public on the role of hunting as a viable management tool in Arizona.
- Preserve the economic viability of the Department by sustaining an active customer base.
- Improve/enhance the public view of hunting to assure agency viability in a voter initiative state. A goal of all hunter recruitment/retention efforts should be to reflect, or otherwise be sensitive to, those aspects that lead the public to be on the positive side of neutral on hunting and wildlife issues, regardless of whether they are recruited as hunters.
- Adaptively manage Department services and programs in a manner that maintains a vision and route for new hunters to become engaged in hunting, and to reestablish hunting traditions in the state.

The Hunter Recruitment and Retention Program would seek to establish and maintain social support for hunting and related activities by supporting the establishment of local hunting clubs. The program would coordinate with hunting clubs in implementing program activities and encouraging local activism that supports continued acceptance of and participation in hunting. The Hunter Recruitment and Retention Program would coordinate with existing NGOs to establish volunteer networks to cooperate in program implementation.

The Hunter Recruitment and Retention Program would monitor other state programs as well as N.G.O. programs to assure that the Department adopted new tactics to move closer to retention and recruitment goals. The program would also monitor/explore efforts to establish measurements to assure program effectiveness.

Justification: Hunting is an integral component of wildlife management and vital to the mission and economics of the Department. In Arizona, as in other states, trends reveal that hunters make up an increasingly smaller portion of the overall population. The loss of participation in hunting is due to a variety of factors including urbanization of the population, the transient nature of the population and social/cultural changes. These factors have tended to erase or erode the tradition of family mentoring of hunting knowledge, skills, ethics, etc. There is often a need to replace the absent traditional linking pin of a family mentored hunting tradition to ensure the sustainability of hunting in an evolving culture.

Providing mentor programs, providing equipment and providing more opportunities for “first time” hunters were all identified in the Hunter Needs Assessment as important services to recruit hunters.

- 68% of respondents in the Hunter Needs Assessment indicated that they would be interested in attending a free seminar to learn about hunting in Arizona.
- 47% of respondents in the Hunter Needs Assessment indicated that providing mentoring programs was an important service in recruiting new hunters.
- 29% of respondents in the Hunter Needs Assessment indicated that providing equipment (guns) for youth or first time hunter events was an important service in recruiting new hunters.
- 56% of respondents in the Hunter Needs Assessment indicated that providing more youth hunts was an important service in recruiting new hunters.
- 72% of respondents in the Hunter Needs Assessment indicated that providing shooting programs in schools and other venues was an important service.
- 8% of respondents in the Hunter Needs Assessment indicated that lack of a mentor was a barrier to hunting. This is significant in that the survey was directed toward individuals that hunt.

Alternative to creating new Position:

The HRR Team was not able to identify any programs or positions that the department could eliminate without adversely impacting existing services and employee workloads. The team reasonably assumed that the department did not wish to curtail existing services, and was unable to identify existing positions within IED or the Game Branch that it considered redundant or underutilized. Based on existing organizational structures within the IED and Game Branch work units, the HRR Team believes it would be counterproductive for existing staff positions to add these new duties to their existing workload and be able to effectively conduct retention and recruitment activities (together with existing duties). While it is impossible to predict whether the team's recommendations will, in fact, result in improved hunter retention and recruitment rates, it is recommended that the department fully evaluate the benefits of committing incremental funding and labor to the programmatic effort in order to make a meaningful impact. Long-term downward trends in recruitment and retention make it clear that doing nothing or conducting Department programs as a side-line to other integral responsibilities are not attractive or viable options if the Department is committed to boosting participation in the sport.

The funding sources eligible for these positions and activities are: Wildlife Conservation Fund, Game and Fish Fund or Pittman-Robertson. The Wildlife Conservation Fund is the source least likely to result in funding reductions to other areas because it represents "new money;" however, the Game and Fish Fund may be the best source if the department's Fee Cap bill is approved by the legislature. If Pittman-Robertson funds are used, Executive Staff would have to make a choice to reduce PR funding in another area of operations (the HRR Team believes this is a choice best left to Executive Staff).

RECOMMENDATION #9 – Establish a full-time Shooting Range Development Coordinator position in IEED to promote convenient public access to shooting sports/ranges.

Hunter and shooters have expressed and demonstrated the need for safe places to learn and practice shooting. The Department has invested extensively in expanding shooting ranges in the state and the HRR Team supports these efforts as they serve as an important element in promoting hunting sports. As a result, the HRR Team recommends that a Coordinator position be established to oversee the development/exploration of additional shooting facilities that provide public convenience and safety. The HRR Team offers this recommendation based on information provided by I&E that supports the addition of a shooting range development coordinator due to time commitments of existing staff and the fact that the Commission has further expressed strong support for fostering the development of additional ranges statewide.

In forwarding this recommendation, the HRR Team acknowledges the financial constraints under which the Department operates and that heavily influence the decision-making process in adding new positions. In addition, it is difficult to apply return-on-investment criteria to recommendations of this type given the passive and long-term nature of benefits that are derived from facilities like shooting ranges. With these qualifications in mind, the HRR Team recommends that the Shooting Range Development Coordinator position be viewed as second priority to the Hunter Recruitment/Retention Coordinator position, which the HRR Team feels weighs more heavily in the development of an effective hunter recruitment/retention program for the Department. If this position is created a planning document that is GIS oriented needs to be created for the state. This would allow the agency to target areas where ranges are needed. In addition unmanned ranges need to be developed on state and federal lands wherever possible to assist in providing safe shooting throughout the state.

Explanation: Providing safe places to shoot helps with hunter recruitment and shooting recruitment through out the state. Shooting ranges can present a positive image that helps influence peoples perception about firearms and shooting. When the federal government closes shooting areas, it makes it inconvenient for some shooters to find places to practice. The agency needs to be proactive in locating new ranges and keeping existing ranges operational.

Costs: The Information and Education Assistant Director has determined this cost to be approximately \$150,000 per fiscal year. This cost would include salary, office space and vehicle use.

Value: Without this position, the agency will struggle to meet the demands of new ranges already identified in northwestern, northern, and northeastern Arizona. Because of the closure of shooting areas in the greater Phoenix area on federal lands, additional pressure is being placed on other federal resources. Rather than closure, an individual needs to work with these agencies to create new shooting locations.

Justification: Three factors necessitate the need for this position:

- Public demand for responsibly run and well-managed shooting ranges
- State legislators' call for such facilities in response to constituent requests and legislator's desire for increased firearms safety education
- Increasing pressure to improve, move, or eliminate existing ranges as a result of urban encroachment and needs to mitigate impacts of wildcat-ranges

Statewide range administration is handled by the Education Branch Chief, who is currently not able to adequately perform these incremental functions while performing his primary duties. Statewide range administration is a full-time job, requiring extensive travel and time to meet with constituent groups, provide technical assistance to county and municipal governments, respond to legislator requests for information and service, administer grant programs, coordinate development activities (internal and external), and troubleshoot and mitigate range related problems.

Survey responses from the Hunter Needs Assessment suggest that 38% consider shooting ranges to be important regarding hunter retention and recruitment. Currently, the Arizona Game and Fish Commission supports this idea. Meanwhile, federal agencies are attempting to limit shooting on federal lands due to wildcat ranges.

RECOMMENDATION #10 – Launch Department public information and outreach efforts that promote hunting opportunities in Arizona and that generally support broader hunter recruitment/retention efforts.

The HRR Team recommends that the Department institute measures (lead through IEED) aimed at increasing promotional focus on the positive images/aspects of hunting in appropriate venues, and direct these efforts in a manner that supports the deployment and implementation of other hunter retention/recruitment objectives outlined herein. Specific concepts and ideas include:

1. Continuing to develop a Hunting newsletter that reflects hunter recruitment/retention management objectives and that provides timely updates on hunting seasons, opportunities and locations (including “where to hunt” information for new hunters).
2. Developing messages that relate to economics of hunting and wildlife management, promote hunting as a good, safe, family activity, and otherwise reflect on the status of Arizona's hunting heritage (family/personal profiles). Appropriate messages can also be directed at the North American model, nutritional value of game meat, etc.
3. Include more articles and information about hunting in Wildlife Views (TV and magazine).
4. Pursue outside funding and collaborative ventures for marketing campaigns.

5. Network with other hunting organizations or businesses in promoting Department programs. (Including web page links where appropriate)

Costs: Using the existing outreach avenues available to the Department, implementation costs would be minimal and will largely involve a rotation of priorities and focus among existing IEED staff. These options would require a change in focus to include the development and distribution of more hunting related information, while a dedicated and focused hunting marketing/promotion campaign would cost a minimum of \$100,000 (pers. comm. with Marty Macurak).

Value: The most significant value of this would be to support all other recommendations by providing consistent outreach that promotes the image of hunting and provides information on accompanying hunting programs and activities offer through the Department and/or NGOs.

Justification: All other recommendations would benefit from, if not require, some promotion and public outreach support. Specific information needs were also identified in the Hunter Needs Assessment. For example, “Access Information” (i.e. where you can hunt) was identified as important by 77% of the survey respondents. In addition, there are existing opportunities to network with other organizations and businesses. For example, the HRR Team was informed that J&G Sporting Goods in Prescott has initiated a proactive and exciting hunting promotional campaign that includes television commercials portraying hunting in a positive light and encourages viewers to participate.

Potential Negative Impacts: The potential exists for the Department to experience some level of negative public feedback if it is viewed as actively and aggressively promoting hunting and hunting related activities. The HRR Team feels that appropriate sensitivity can be directed in developing these programs, which includes being highly selective in targeting the venues/mediums, through which, public outreach efforts are channeled.

RECOMMENDATION #11 - Update the Department’s strategic planning documents to proactively address risks associated with urban encroachment as it relates to impacts on small game hunting opportunities, which serve to support hunter recruitment/retention efforts.

The HRR Team identified opportunities for updating existing strategic planning references to incorporate hunter recruitment/retention concepts outlined herein. Specific suggestions include:

1. In Wildlife 2012, add the following strategy to “Challenge 3. Wildlife Management”
 - a. Proactively identify, protect, preserve and establish hunting opportunities near urban areas and near areas where urban development is likely to threaten hunting opportunities in the future (to include land acquisition when necessary and feasible).
2. In Wildlife 2012, add the following strategies to “Challenge 4. Wildlife Habitat”
 - a. In all habitat conservation, habitat enhancement and land protection programs advocate for maintenance and enhancement of small game hunting opportunities

near urban areas and near areas where urban development is likely to threaten hunting opportunities in the future.

- b. During land acquisition activities identify funding sources for acquiring lands and/or easements that provide small game hunting opportunities near urban areas and near areas where urban development is likely to threaten hunting opportunities in the future.

Explanation: This recommendation would provide urban populations of Arizona continued access to quality small game hunting opportunities, and securing the establishment and protection of such opportunities should be evaluated by the Department in setting strategic objectives. One aspect of this is to ensure these issues are considered in program strategic planning efforts. Incorporating these concepts into strategic planning documents also provides Commission and constituent awareness of Department efforts in providing public hunting opportunities.

Cost: The strategic plan will be rewritten in the near future and this recommendation can be accomplished concurrent with other revisions at no additional cost. The cost associated with any potential leasing program is detailed in recommendation #2. Costs associated with a land purchase cannot be estimated with any accuracy until a specific parcel is identified, and significant variation is expected based on location and the land market at the time of purchase.

The annual report from the State Land Department indicates their agency sold 1,824 acres of urban land in 2004 for an average price of \$169,864 per acre. In the same year they sold 50 acres of rural land for an average of \$14,105 per acre. In the U.S. Department of Agriculture 2002 census, farms in Arizona were sorted by county location and land values were summarized. The average value per acre for farms in Arizona was \$398 per acre, for Maricopa County the value was \$3,026 per acre. In Pima County the value per acre was \$295, while the value in Pinal County was \$1,230 per acre. These figures are countywide averages and it is unclear what variables are influencing the values (why Pinal County farms have higher value the Pima County farms). While accurate estimates can't be generated until specific properties are identified, it would be a safe assumption that purchasing agricultural land in these areas will be expensive. It will be even more expensive once the area begins to be developed.

Value: Proactive protection of hunting areas is important to customers based on survey results:

- 65% consider urbanization and development of hunting areas to be a barrier to hunting
- 41% of surveyed hunters would consider small game hunting as a substitute for not being drawn (90% consider not being drawn a barrier to hunting)
- 59% of hunters consider "lack of time" a barrier, and 20% consider the distance required to travel to a hunting area is a barrier

Protecting and establishing significant small game hunting opportunities close to urban areas will help address these issues. Additionally, assimilating these strategic concepts into the Department's planning documents will provide necessary support and focus in advancing other recommendations outlined herein. Secure hunting areas will provide a place to conduct many of the activities identified in recommendation #8 (HRR Coordinator), and will provide places for

people to continue hunting after they complete any of the activities. This approach also supports recommendation #9 (public information and outreach) by providing places that could be marketed to new and existing hunters.

Justification: The hunting tradition is an integral part of wildlife management under the North American Model, and is integral to the economic viability of the Arizona Game and Fish Department. Identifying and developing accompanying strategies that address threats to the state's hunting economy/tradition are important part of all of the agency's wildlife program activities. One of the primary threats to this tradition in Arizona is the increasing rate of decline in suitable land/habitat that is available for hunting, particularly for those areas near the urban centers of Phoenix and Tucson. When addressing/planning habitat issues in these urban areas, the HRR Team feels it is equally as important to conduct these evaluations with preserving hunting access/space and small game hunting opportunities in mind.

It is hoped that the pilot programs outlined in recommendations #1 and #2 are successful, and the Department is able to achieve recruitment and retention goals by providing quality small game hunting opportunities near urban areas in a cost effective way. As development continues around Phoenix and Tucson, areas that currently provide small game hunting opportunities for people in these cities will disappear. The Department needs a strategic and proactive approach to ensure we address these issues in order to retain current hunters that live in the urban areas and to allow for continued recruitment of new hunters from the urban areas.

The pilot program described in recommendation #1 (LGRWMA program), if successful, will provide a place and sustainable small game populations on the west side of the Phoenix metro area. The HRR Team recognizes that this alone will not meet the needs of urban hunters within the state. An area of particular interest was the area between the east side of the Phoenix metro area and Tucson. The Department does not currently own any significant properties in the area, dove hunters use the area extensively in and around agriculture, and the area is being developed at a very rapid rate. Contingent of the success of the LGRWMA pilot program, establishing similar opportunities between Phoenix and Tucson will be extremely valuable.

RECOMMENDATION #12 – Conduct periodic reviews of key hunting, draw and license sales data/trends to monitor success and progress of applicable hunter recruitment/retention efforts, and apply appropriate adaptive management practices aimed at refining the effectiveness of Department hunter recruitment/retention programs.

The HRR Team recommends that IS be charged with compiling an annual summary of available Hunt Draw and License Sales Data to allow executive staff and other Department divisions to evaluate effectiveness and progress on hunter recruitment and retention objectives. Analysis and review of related information will also allow for the adaptive management of hunter recruitment/retention goals and objectives. Key trend metrics and information to be considered for evaluation and monitoring include:

- Annual license sales (increase)
- Monitor age classes of license buyer (increase in the younger age classes)

- Number of new license buyers (increase)
- Gender (increase diversity)
- County of residence (increase urban participation)
- Years of residency (increase participation in new residents 0-10)
- Number of big game applicants (track)
- Applicant churn (track, reduce)
- All others as appropriate
- Percentage of small game hunters (obtained through the WMGM hunter survey)

Explanation: An analysis of historical/actual results of customer purchases and participation in hunting opportunity would aid in the development and refinement of hunter recruitment/retention efforts through time. Monitoring trends and activity in select indices will allow the Department to evaluate the effectiveness and relative progression of hunter recruitment/retention objectives (programs) and assist in programmatic decision-making. Furthermore, this analysis will provide a basis to employ adaptive management principles that will guide implementation of overriding management strategies.

Cost: The cost for this recommendation would be minimal since most of this data is currently available and readily collectable. The largest cost would be personnel time in establishing final reporting formats and compiling reports as needed, with the main task being collecting all data into a final document.

Value: The value of collecting this data is to determine the effectiveness of the eleven other recommendations. This supports all the other recommendations.

Justification: The intent of this recommendation is to have it structured and implemented in a fashion that provides a program-monitoring vehicle for the Department in evaluating progress and achievement of those hunter recruitment/retention efforts and elements that are ultimately mobilized. The primary justification is that this recommendation establishes a quantitative framework for measuring the effectiveness and success of the entire hunter recruitment/retention program, and of any particular elements of the comprehensive program upon which the Department may want to apply more refined and specific monitoring of program goals and objectives.

TEAM PARKING LOT ITEMS

The following outlines major issues and questions that the HRR Team was not able to fully address through this report, but which remain as important concepts requiring additional research in formalizing the Department's strategies in addressing hunter recruitment and retention:

1. Determine how the Department can effectively target and recruit new residents;
2. Determine how the Department can more effectively introduce minorities (e.g. Hispanics) and other under-served constituencies to the sport.

3. Conduct surveys or focus-group activities among non-hunters to obtain information on why they don't hunt and what factors may serve to encourage them to try the sport.

In addition, the Department should take appropriate steps during its strategic planning process to poll hunting industry interests and solicit inputs as they relate to Department approaches to enhancing hunter recruitment/retention.

TEAM-RECOMMENDATION IMPLICATIONS TO THE BALANCED SCORE CARD

The recommendations above, individually and/or collectively, address the following Agency's Balanced Scorecard III items:

- Customer (2) - Improve external customer satisfaction
- Customer (3) – Expand and diversify the customer base
- Customer (4) – Improve effectiveness of marketing and outreach programs
- Financial (2) – Pursue alternate funding
- Process (1) – Fine Tune the Quality Program
- Process (2) – Improve e-commerce
- Process (3) – Improve knowledge of customer and market

The HRR Team's recommendations also address the Director's Goals and Objectives for 2005:

- Goal 13. Improve Hunter/Angler Recruitment and Retention.