

## TURKEY MANAGEMENT GUIDELINES

Procedure 1: To determine recruitment rates and annual flock size

- A. Wildlife Managers having turkeys in their units should record map locations for each turkey observation made during the year. Locations will be mapped by entering the location on topographic maps, recording locations in GPS, or determining locations from maps. In low density areas sign and tracks may be considered observations. Total counts of birds (direct observations or tracks) will be given priority, with detailed classification by sex and age whenever possible. Survey data may be obtained from observations during routine activities during August 1 through September 15 to determine hen:poult ratios. Spring surveys to determine minimum population counts in isolated turkey habitat, such as that occupied by Gould's turkeys or in new population release areas, during March 15 to April 30.
- B. Game Specialists will summarize and distribute data annually on the turkey management summary forms.
- C. Archery elk hunters will be questioned as to the number of flocks observed during their hunt. This information will be gathered by including a question on the annual hunter questionnaire. Data will be summarized and sent to the Game Specialists within 60 days of the initial mailing.

Procedure 2: To collect data on the age classes and condition of harvested turkeys

- A. Hunt check stations and/or foot collection barrels may be established in selected areas during the fall firearms season. The locations of these stations will be recommended by the Game Specialist and approved by the Big Game Supervisor. The operation of the check station(s) will be the responsibility of the Region, with assistance from Game Branch. Turkeys will be weighed, aged, sexed, and examined for body condition. Hunt data will be recorded on multiple species check station cards and summarized by the Game Specialist and forwarded to the Big Game Supervisor within 4 weeks of the end of the season.
- B. Wildlife Managers should collect sex and age data on all turkeys checked during routine patrol of turkey hunts. These data will be sent to the Game Specialist within 2 weeks after the last day of the turkey season. The Game Specialist will summarize the data from the region and forward the summary to the Big Game Supervisor within four weeks after the last day of the season.
- C. Hunt questionnaires should be sent to Fall and Spring Turkey hunters within 2 weeks after the last day of the turkey hunt. Data will be summarized and sent to the Game Specialist within 60 days of the initial mailing. The Game Branch, Game Specialist, and individual Wildlife Managers will analyze questionnaire data and evaluate results. The collection and distribution of questionnaire data and results will be the responsibility of the Game Branch.

Procedure 3: To use habitat, survey, and hunt data to determine hunt structure and permit numbers in each unit

- A. Wildlife Managers having turkeys in their units will complete a Turkey Habitat Scorecard by unit. The Turkey Habitat Scorecard will be reevaluated when a substantial change may have occurred in either the population status or habitat quality. Hunt structure may not be changed unless population status and habitat quality have been evaluated during the year the change is recommended.
- B. Survey data collected between August 1 and September 15 will be summarized by unit into number of flocks observed, mean flock size, and ratios of poults:hens:toms. These data, along with a general population estimate, should be summarized.
- C. Hunt recommendations will be formulated by the Wildlife Manager and reviewed by the Game Specialist. The Habitat Scorecard, Turkey Management Worksheet, and Turkey Population Worksheet will be used to determine hunt structure and permit numbers.
- D. Hunt recommendations will be made in conformance with the Guidelines for Hunting Season Recommendations.
  - 1. When changes in permit numbers are indicated all data must be evaluated to determine the magnitude of change. Factors influencing this change must be presented in writing with the hunt recommendations.
  - 2. The first stratified season will open on Friday of week 17 for seven days, close for seven days, and reopen for 14 days.
  - 3. The second stratified spring season shall start on the Friday of week 18 for 21 consecutive days. In units with stratified seasons, the last 14 days of the first and second seasons will overlap.
  - 4. Juniors-only fall seasons will be recommended with season dates concurrent with general fall seasons. Juniors-only spring seasons will be recommended to begin one week prior to the general spring season.

Hunting opportunity will be determined through a Turkey Management Worksheet, which involves a three-step process of:

- 1. Determining spring and fall hunt structures by unit.
- 2. Determining permit changes by unit.
- 3. Determining maximum spring hunter density by unit.

Management Criteria are:

1. Hunt structure will fall into one of the following categories as determined by a score generated from the Habitat Quality Scorecard and a decision of population status within the unit.

| Parameter                                       | Population Status |          |       |
|---|-------------------|----------|-------|
|   | Low               | Medium   | High  |
| Mean harvest (3-year)                           | <25               | 25-50    | >50   |
| Population estimate                             | <400              | 400-1000 | >1000 |
| Observations during survey period (3-year mean) | <30               | 30-100   | >100  |

| Habitat Score | Population Status |        |     |
|---------------|-------------------|--------|-----|
|               | High              | Medium | Low |
| High          | A                 | A      | B   |
| Medium        | A                 | B      | C   |
| Low           | B                 | C      | C   |

- a. If the score is A, the unit will have a permitted fall hunt and spring hunt.
  - b. If the score is B, the unit may have a permitted fall hunt and will have a permitted spring hunt. Fall hunt can be influenced based on plans to transplant from this population or severe downward trajectory of population.
  - c. If the score is C, the unit may have a permitted fall hunt and/or a permitted spring hunt. Permits should be established to remove about 10% of the female segment (fall seasons) or 30% of the male segment (spring seasons).
2. Permit changes for each hunt and unit will be determined using average hunt success and 3-year trend in hunt success. Permit changes should follow:

| Parameter                      | Decrease  | Stable | Increase   |
|--------------------------------|-----------|--------|------------|
| Mean hunt success (3-year)     | <10%      | 10-15% | >15%       |
| Trend of hunt success (3-year) | Declining | Stable | Increasing |

- E. Hunt unit recommendations and survey data must be submitted to the Game Branch for review in accordance with the Hunt Recommendations Guidelines schedule.

Procedure 4: To index turkey population levels and annually estimate the size of particular populations

- A. Field Operation personnel may prepare turkey population estimates for each unit based on population characteristics obtained from density maps, surveys, and harvest data derived from hunt questionnaires. Population status should be derived from the table above.
- B. We recognize the need for additional advances in GPS and GIS technology and survey and computer modeling techniques to better develop population estimates.

Procedure 5: To identify land use activities that may either improve or adversely affect turkey populations

- A. When land use activities are a limiting factor on turkey populations, the local office of the responsible land management agency will be approached by the Region in an attempt to alleviate the situation. Wildlife Management Division and Field Operations Division will then coordinate solutions to the problems identified with the appropriate supervisory level of the land management agency.
- B. Habitat modifications and acquisition is a management objective. Field Operations personnel will identify and recommend strategies for important parcels. The Habitat Branch will take the necessary steps to initiate land acquisitions and/or will coordinate with other Branches and Divisions to finalize recommendations.

### **Habitat Evaluation Scorecard for Developing Turkey Hunt Recommendations**

The following scorecard is to be used in the formulation of fall and spring turkey hunt recommendations. This scorecard is designed to evaluate the habitat conditions within a Game Management Unit (GMU), although each criterion may require consideration of adjacent GMUs. Read each question carefully, as each asks for specific information. The Management Guidelines for Merriam's Wild Turkeys published by the Colorado Division of Wildlife (Hoffman et al. 1993) may be a useful reference in answering some questions. We did not design these questions to create laborious inventory of habitats; data should be available at USFS District or AGFD Game Branch offices. When using this scorecard, work with your Regional Game Specialist. If you have not been in your unit at least five years, consulting the Wildlife Manger who preceded you in the District may help. If information is not available you may need to estimate some answers. Close estimates are better than either spending days getting one answer or a wild guess. This scorecard must be completed before changes to hunt structures or permits can be recommended.

Please complete each question and indicate your source for information. Please provide as much information to justify your answer as possible.

1. How many square miles of occupied turkey habitat (including winter and summer ranges) exist within your GMU? *Suggested source:* Turkey range maps from Game Branch (These maps may need updating, Game Specialists could help with maps and help make sure adjacent units are consistent) and Incidental observations, observation of tracks or other sign.
2. What is the total area (miles<sup>2</sup>) of medium and high density turkey habitat (including winter and summer ranges) within your GMU? *Suggested source:* Game Branch maps of medium and high density turkey habitat.
3. What is the average road density, expressed as miles of open roads/section, within your turkey range (include primary, secondary, and tertiary roads)? *Suggested source:* USDA Forest Service Road and Travelway Management (RATM) maps.
4. How much annual recreational disturbance (recreational visitor days [1 person present within GMU for any reason for 12 hrs] per year) does your GMU or turkey range experience? Include hunter days, if not part of the reported RVDs. Where data is lacking for a GMU provide your best estimate. *Suggested source:* USDA Forest Service or BLM.
5. Water should be available within 1 mile of suitable turkey habitat. In your GMU, is water distribution: (1) not limiting; (2) limited on a small portion of the range; (3) limited on approximately half of your range; (4) limited on a large portion of your range; or (5) limited throughout your range? *Suggested source:* USDA Forest

- Service maps and your experience.
6. Grass and forb production is important to turkeys for brood and summer habitat. Rate your summer and brood habitat based on herbaceous production and distribution, using a scale from 0 to 5, providing one score for the entire GMU. Optimum brood habitat is generally well distributed and contains at least three species of grass, five species of forbs, and an average herbaceous height of 8-11 inches. Habitats meeting this criteria would score a 0. Habitats with poor vegetative growth, poor diversity of grasses and forbs, or heavy grazing would score 5. Using this scale, rate your summer and brood habitat considering an average spring. *Suggested source:* USDA Forest Service range conservationists and your annual reconnaissance.
  7. Optimal horizontal cover should be less than 150 ft for person to person sight distances. On a scale from 0 to 5, describe the horizontal cover in your turkey habitat, providing one score for the entire GMU. If this type of cover is abundant greater than 50%, well distributed and in conjunction with interspersed small openings, rate your habitat 0. If this type of cover is rare and isolated, rate your habitat 5. *Suggested source:* Your experience.
  8. Roosting habitat is an essential component of turkey habitat. In your GMU, is roost site distribution: 1) not limiting; 2) limited on a small portion of the range; 3) limited on a large portion of your range; or 4) limited throughout your range? *Suggested source:* USDA Forest Service coupled with your reconnaissance.
  9. Expressed as a percentage, what proportion of your occupied turkey habitat is in an administrative vehicle closure? Include seasonal closures if the turkeys are present during the closure period. *Suggested source:* USDA Forest Service or BLM and your experience of occupied range.
  10. What proportion of your turkey habitat, expressed as a percentage, has been adversely disturbed under active management including timber sales, thinning, control burns, etc within the last 3 years?. To be considered these activities must be of an adverse nature. Do not include grazing activities. *Suggested source:* USDA Forest Service timber sale maps, maps of prescribed burns, fuel wood sales.
  11. What portion of your Turkey habitat, expressed as a percentage, has been improved for turkeys under active management within the last three years. *Suggested source:* USDA Forest Service timber sale maps, maps of prescribed burns, fuel wood sales.
  12. Was a large proportion of a key or critical area adversely impacted within your GMU recently ( 5 years)? What proportion, expressed as a percent, of key or critical areas (e.g., winter range, nesting habitat, travel corridors) was impacted within the last 5 years?

13. Which key or critical area was impacted? How much of your population, again expressed as a percent, do you believe to be affected? *Suggested source: USDA Forest Service timber sale maps, maps of prescribed burns, fuel wood sales, and your experience.*
14. On a scale from 0 to 5, describe whether your turkey habitat is located in one or two continuous, non-fragmented blocks (0) or in many isolated small blocks (5). When you evaluate this parameter, consider adjacent habitat in other GMUs or political boundaries (e. g., tribal lands) to determine if your habitat is fragmented. In other words, delineate potential populations across boundaries and evaluate degree of fragmentation. *Suggested source: USDA Forest Service vegetation maps (terrestrial ecosystem survey), Game Branch maps, your experience.*
15. Consider your winter range. Good winter range is generally at least equal in size to your summer range and contains a diverse and stable winter food source. These sources should include 4 common species, typically including Gambel Oak and Alligator Juniper. The winter range should also have a distribution of roost sites of at least 2 per section. These conditions would represent a score of 0. As conditions deviate from the above description in size, food diversity and stability, and roost sites, scores should increase towards a maximum of 5.
16. Within your GMU winter range, how many winter food sources are available in usable abundance? Include any species that may be important in your turkey winter range. *Suggested source: Your experience, annual reconnaissance, Arizona Flora (Kearny and Peebles).*

### **Examples**

Grass

Arizona white oak (*Quercus arizonica*)

Gray oak (*Q. grisea*)

Shrub live oak (*Q. turbinella*)

Gambel oak (*Q. gambelii*)

Palmer oak (*Q. palmeri*)

Emory oak (*Q. emoryi*)

Silverleaf oak (*Q. hypoleucoides*)

Ponderosa pine (*Pinus ponderosa*)

Pinyon pine (*P. edulis* or *P. monophylla*)

Alligator juniper (*Juniperus deppeana*)

Rocky Mountain juniper (*J. scopulorum*)

One-seed juniper (*J. monosperma*)

Utah juniper (*J. osteosperma*)

Manzanita (*Arctostaphylos* spp.)

If you use the accompanying spreadsheet, your scores will be converted automatically into a overall score and ultimately a rating as to whether your habitat is high, medium, or low quality. For the user's information, following is an explanation of how the spreadsheet calculates that score.

First, it classifies the scores by question:

- |     |   |       |
|-----|---|-------|
| 1.  | 0 = 0-29<br>1 = 30-99<br>2 = 100-149<br>3 = 150-299<br>4 = 300-499<br>5 = >500                                      | 5 = 5 |
| 2.  | 0 = 0<br>1 = 1-51<br>3 = 52-99<br>5 = >99   |       |
| 3.  | 0 = 0-0.4<br>1 = 0.5-1.3<br>3 = 4-2.4<br>5 = >2.4   |       |
| 4.  | 0 = 0-9,999<br>1 = 10,000-49,999<br>2 = 50,000-99,999<br>3 = 100,000-199,999<br>4 = 200,000-749,999<br>5 = >749,999 |       |
| 5.  | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>5 = 5   |       |
| 6.  | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>5 = 5   |       |
| 7.  | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4  |       |
| 8.  | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4  |       |
| 9.  | 0 = 0<br>1 = 1-9<br>2 = 10-19<br>3 = 20-29<br>4 = 30-49<br>5 = >49  |       |
| 10. | 0 = 0<br>1 = 1-9<br>2 = 10-19<br>3 = 20-29<br>4 = 30-49<br>5 = >49  |       |
| 11. | 0 = 0<br>1 = 1-9<br>2 = 10-19<br>3 = 20-29<br>4 = 30-49<br>5 = >49  |       |
| 12. | 0 = 0<br>1 = 1-9<br>2 = 10-19<br>3 = 20-29<br>4 = 30-49<br>5 = >49  |       |
| 13. | 0 = 0<br>1 = 1-9<br>2 = 10-19   |       |

3 = 20-29  
4 = 30-49  
5 = >49

Medium quality habitat = 25-75  
High quality habitat = >75

14. 0 = 0  
1 = 1  
2 = 2  
3 = 3  
4 = 4  
5 = 5

15. 0 = 0  
1 = 1  
2 = 2  
3 = 3  
4 = 4  
5 = 5

16. 0 = >8  
1 = 7-8  
2 = 5-6  
3 = 3-4  
4 = 1-2  
5 = 0

The spreadsheet now calculates 4 intermediate variables, PH, D1, D2, and A:

$$PH = (\#1 + \#2) * 10$$

$$D1 = (\#3 + \#4)$$

$$D2 = ((\#5 + \#6 + \#7 + \#8 + \#15 + \#16)/6) - \#9$$

$$A = ((\#10 + \#12 + \#13)/3) - \#11$$

These variables are then used to develop a numerical score:

$$\text{Score} = PH - (D1 + D2 + A)$$

Finally, habitat quality is assessed according to the numerical score:

Low quality habitat = <25