DIXIE NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN
Supplemental Information Report (SIR) and Determination

I. PURPOSE OF THIS SIR

CEQ NEPA regulations (40 CFR 1509.2(c) and FS NEPA procedures) require supplementation of NEPA documents when there are "significant new circumstances or information relevant to environmental concerns and bearings on the proposed action or its impacts."

The purpose of this SIR is to determine if the *Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah* (Utah Conservation Strategy) represents significant new information or changed conditions bearing on current Land and Resource Management Plan (LRMP) direction or the effects identified in the Final Environmental Impact Statement (FEIS) for that LRMP.

II. INTRODUCTION

NFMA directs the Secretary of Agriculture to issue regulations for the development and revision of forest plans (16 U.S.C. S 1604(g)). These regulations are codified at 36 C.F.R. S219. A forest plan is a dynamic management plan that guides future decisions. It provides multiple-use goals and objectives that constitute the "vision" (or intentions) of the Forest Service regarding the planning unit. The forest plan describes the desired future condition of the Forest, and how progress toward it will be made through the planning period. In addition to providing multiple-use goals and objectives, the plan has some features of a zoning ordinance in that it permits or prohibits activities, and establishes standards and guidelines that regulate them. Thus, standards and guidelines comprise "sideboards" in achieving goals and objectives.

In response to the regulations cited above, the Dixie National Forest in Utah developed a forest plan. The Record of Decision (ROD) to implement this Land and Resource Management Plan (LRMP or Forest Plan) was signed in September 1986. The six decisions made in the ROD

- established forestwide multiple-use goals and objectives;
- established forestwide standards;
- established forestwide guidelines;
- delineated management areas and associated management prescriptions;
- idenitified lands not suited for timber production; and
- established monitoring and evaluation requirements.

These six decisions, in part, addressed requirements at 36 C.F.R. S 219.19 that "wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." This section further specifies that "habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area." *Id.* In order to estimate the effects of each alternative on fish and wildlife populations, certain vertebrate and invertebrate species present in the planning area were identified and selected as management indicator species (MIS) whose "population changes are believed to indicate the effects of management activities." 36 C.F.R. S 219.19(a)(1). The northern goshawk is an MIS for the Dixie National Forest LRMP.

This SIR assesses the need to change (i.e., amend) one or more of the six decision points made in the Dixie National Forest LRMP due to new information in the Utah Conservation Strategy. This strategy has been developed for use by National Forests in Utah, in part, to further ensure satisfaction of requirements at 36 C.F.R. S 219.19 for the northern goshawk. The strategy is based on information and recommendations

found in the *Habitat Assessment and Management Recommendations for the Northern Goshawk (Accipiter gentilis) in Utah* (Graham et al. 1998; in press) and *Management recommendations for the northern goshawk in the southwestern United States* (Reynolds et al. 1992).

At 36 CFR S. 219.10(f) it states "The Forest Supervisor may amend the forest plan. Based on an analysis of the objectives, guidelines, and other contents of the forest plan, the forest supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a forest plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures."

Therefore, this SIR will compare the six decision points made in the land and resource management plan to information in the Utah Conservation Strategy to determine if the Strategy can be implemented under the current forest plan, or if amendments are required.

Viability of the Northern Goshawk and the Forest Plan

36 C.F.R. S 219.19 requires that "wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." It also specifies that "habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area." To meet these requirements for a far-ranging, broadly distributed species such as the northern goshawk--where a Population Viability Analysis (PVA), or surrogate analysis, is conducted at scales larger than an individual planning area--it must be clear what role individual planning areas (i.e., forest plan units) play in sustaining population viability at the larger scale. Matching the scale of analysis to the scale of biological processes is key to the success of PVA. Different taxa, and different ecological processes that influence the life histories of those taxa, call for analyses at different scales.

For the goshawk, the planning area managed under a Forest Plan provides an important piece of the total habitat that ensures maintenance of species representation throughout the area which defines a self-sustaining population (i.e., the aggregation of landscapes within the State of Utah). Habitat found on each forest provides connectivity and travel lanes, contributes to genetic diversity, and increases the number of individuals in the larger population.

Though the assessment completed by Graham et al. found that current habitat appears to be capable of supporting a viable population of goshawks at the State spatial scale, it recognized that "habitat deficiencies may be present at the local level" because of the coarse scale of the assessment. The Strategy provides administrative units with the necessary background information and analysis procedures to insure that projects proposed in areas involving goshawk habitat, or potential habitat, are properly designed and implemented to meet habitat goals.

Following the guidance in the Strategy will ensure that the administrative unit sustains habitat for the maintenance of species representation throughout the planning area over time, and contributes to sustaining habitat connectivity among National Forests. Connectivity among habitats is a key element to population viability because it allows juveniles to disperse from natal areas and individuals to emigrate to new areas. Connected habitat makes it possible for individuals to recolonize habitats or emigrate to new breeding territories throughout the State when habitat values change locally.

III. Relationship between species assessments, conservation strategies, and Forest Plan management direction

Species Assessments

The Habitat Assessment and Management Recommendations for the Northern Goshawk (Accipiter gentilis) in Utah (Graham et al. 1998, in press) considered goshawk habitat relationships and needs, historic and current range, demographic features and population trends, and limiting factors, and provided an estimate of long-term persistence considering past, present, and anticipated future conditions. To complete the assessment Graham et al. considered a portion of the species range (the State of Utah) to address management concerns. Within this spatial area, all land ownerships were included in the assessment to evaluate the contribution of National Forest System lands to long-term persistence and viability. This assessment included habitat findings not only for the goshawk, but also for its prey and other associated species. These findings provide the foundation for the Strategy.

Conservation Strategies and Agreements

The *Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah* (1998) was developed from information in the *Habitat Assessment and Management Recommendations for the Northern Goshawk (Accipiter gentilis) in Utah*. It recommends management approaches to restore or maintain ecological integrity of goshawk habitat; this contributes to species viability. Management recommendations provide the framework for developing management direction in forest plans to meet the needs of the goshawk, its prey, and associated species.

Forest Plan Management Direction

A forest plan is a dynamic management plan for making future decisions. It has some features of a zoning ordinance in that it permits and prohibits activities, and establishes standards and guidelines ("sideboards") that regulate them.

These sideboards are intentionally broad to accommodate the needs of the many resources; allow for adaptation to the inherent variety of site-specific conditions on a forest; and accommodate adaptation as better science becomes available or policy changes. Plan direction does not provide detailed descriptions of how goals and objectives are to be achieved at the project level. However, the general path defined by the sideboards is narrow enough to insure ecosystem integrity and resiliency are retained, a sustainable level of products and services is provided, and laws and regulations are not violated while project implementation moves the planning area towards its vision.

The Dixie National Forest must determine if implementation of this conservation strategy

- redefines the forest plan vision, as defined by its goals and objectives; and,
- is consistent with the existing forest plan direction (sideboards).

If implementation is consistent, the Forest must determine whether the stipulations in the Strategy are different than the operational boundaries defined by the sideboards (i.e., standards, guidelines, general direction, management area prescriptions). If they are, operational sideboards must be reconsidered, and the significance of the proposed changes must be assessed (FSH 1909.12 (5.32(3)) based on NFMA planning requirements.

This SIR assesses the ability of the current Dixie National Forest plan to implement management recommendations of the Strategy across the planning area.

Below, Part IV - *Evaluation of Forest Plan Adequacy for Implementing the Utah Conservation Strategy*, Part V - *Summary and Conclusions*, and Part VI - *Determination of Need to Amend Current Forest Plan* (and if an amendment is needed, significance of the amendment).

DIXIE NATIONAL FOREST

The Role of the Dixie National Forest in Sustaining Viable Populations of Goshawk at the State Scale

36 C.F.R. S 219.19 requires that "wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." It also specifies that "habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area." To meet these requirements for a far-ranging, broadly distributed species such as the northern goshawk--where a Population Viability Analysis (PVA), or surrogate analysis, is conducted at scales larger than an individual planning area--it must be clear what role individual planning areas (i.e., forest plan units) play in sustaining population viability at the larger scale:

The planning area managed under a Forest Plan provides an important piece of the total habitat that ensures maintenance of species representation throughout the area which defines a self-sustaining population (i.e., the aggregation of landscapes within the State of Utah). Habitat found on each forest provides connectivity and travel lanes, contributes to genetic diversity, and increases the number of individuals in the larger population.

Based on Forest Inventory and Analysis (FIA) data compiled in 1995, the State of Utah encompasses over 54 million acres. Roughly 29 percent of the State (15.7 million acres) is forest land (all ownerships). Forest land is made up of 58 percent (9.2 million acres) pinyon-juniper and juniper woodlands; the remaining 42% (6.5 million acres) is timberland (based on forest type classifications). Timberland refers to those lands that are typically dominated by tree species favored for commercial timber harvest (i.e., "timber species" such as ponderosa pine, Douglas-fir, and Englemann spruce). This is a land area classification system and is not intended to infer a land use such as timber harvest will occur.

Forested land classed as timberland in the FIA report is most important for goshawk habitat. Though the woodland areas (including pinyon/juniper) have some value as winter foraging habitat, no nesting goshawks have been located in this type. The USDA Forest Service manages 81% of the timberlands in Utah (those lands with forest types or habitat types that may be capable of achieving a goshawk habitat rating of high or optimum as described by Graham et al.).

The Dixie National Forest encompasses 1,883,895 acres in southwestern Utah (FIA, 1998). It is made up of 1,448,852 acres of forest land and 435,043 acres of nonforest land or water. Forest land is made up of 57% timberland (827,446 acres) and 43% woodland (621,406 acres), based on FIA forest types. Relative to the State of Utah, the Dixie National Forest timberland component represents roughly 13% of the land with forest types or habitat types that may be capable of achieving a goshawk habitat rating of high or optimum. However, some timberland sites on the Dixie do not have the productive capability to grow trees of sufficient size and density to meet nest stand characteristics as defined by Graham et al. To achieve an overall habitat rating of high or optimum, a site must be capable of achieving high value for nesting *and* high value for at least one forage/prey species.

Though finer resolution data will be used during project-level landscape assessments to identify "local deficiencies" within a landscape, the coarse scale assessment completed for the State of Utah by Graham et al. provides indicators of habitat conditions on an individual National Forest. The Graham et al. assessment indicates that timberland on the Dixie is roughly classed as having 10% optimum habitat, 30% high-value habitat, and 60% moderate- to low-value habitat. Most optimum and high-value habitat occurs on the Cedar City and Powell Ranger Districts. The Teasdale and Escalante Ranger Districts appear to be dominated

by moderate- and low-value habitat, and the Pine Valley Ranger District generally lacks goshawk habitat due to lack of the forest land component classed as timberland component.

The primary reason for the moderate and low-value ratings on the Teasdale and Escalante Ranger Districts is lack of large *mature and old* trees well distributed across the landscape in the ponderosa pine and spruce/fir forest types (local deficiencies as defined in the statewide assessment). The mature and old forest structural class recommended in the strategy provides important habitat values for the goshawk that the other structural classes can not (ie., high valued nesting habitat, habitat for some prey, etc.). Though past management activities such as timber harvest did contribute to the lack of large mature and old trees, bark beetle epidemics that occurred in the early and mid-1900's are the primary cause.

In concert with the statewide assessment, the greatest existing and potential cause of habitat loss on the Dixie National Forest (all districts) is lack of fire in the ecosystem. Fire exclusion, by altering natural fire disturbance regimes, has dramatically altered forested ecosystems. Ingrowth of shade-tolerant tree species (late seral) and buildup of fuels is an example (local deficiency). This deficiency has resulted in stands becoming unstable and higher risk to stand-replacing wildfire and insect and disease attack.

Integrating principles of the conservation strategy in both landscape and project planning to promote desired habitat attributes (i.e., large trees, snags, etc.) will help ensure that projects are developed in such a way as to maintain existing habitat and restore "local deficiencies". For example, strategy recommendations describe a need to restore and maintain greater proportions of old forest and larger snags than is currently provided for under the Dixie National Forest Plan (refer to discussions below).

Both fire and mechanical treatments will be needed to restore and maintain desired habitat. For example, in the Graham et al. 1998 assessment it states that "...current management policies provide latitude for improving goshawk habitat if applied within reasonable ecological constraints. For example partial cutting systems are used to maintain or improve stand characteristics for goshawks and their prey, with overall positive effect on goshawk habitat. In addition, timber harvesting has the potential to convert cover types to earlier seral vegetative communities, which is generally good for goshawks. Thus current management policies provide for a wide range of implementation options, with a correspondingly wide range of possible effects on goshawk habitat. The critical decisions are those being made on individual project level analyses, because this is where managers can use the best available information to insure projects are providing for goshawk habitat needs."

In addition to sustaining habitat--including connectivity--within the Dixie National Forest planning area, it's important to maintain habitat connectivity with adjacent forested landscape. Habitat on Dixie National Forest represents the southernmost extension of forest land habitat in Utah. Based on the statewide assessment, the nearest neighbor with measurable amounts of forest land habitat in Utah is the Fishlake National Forest.

The Dixie and Fishlake National Forests were recently (March 1998) designated the Southern Utah Ecogroup by the Regional Forester. This is an administrative designation meaning that the forests will jointly plan landscape activities at the forest planning scale. Accounting for goshawk habitat needs will be a part of normal business operations. In addition, the Southern Utah Ecogroup will continue to coordinate goshawk habitat management with the other four forests in Utah, based on the requirements outlined in the monitoring section of the Strategy. (The Manti-LaSal and Ashley National Forests comprise the Eastern Utah Ecogroup, the Wasatch-Cache and Uinta comprise the Northern Utah Ecogroup.)

The statewide assessment identifies very little forest land in BLM or State ownership that is capable of reaching optimum or high-value habitat that lies within 60 miles of the Dixie National Forest. Consequently, the Dixie National Forest will concentrate its available resources on ensuring habitat connectivity with the Fishlake.

Connectivity among habitats is a key element to population viability because it allows juveniles to disperse from natal areas and individuals to emigrate to new areas. Connected habitat makes it possible for individuals to recolonize habitats or emigrate to new breeding territories throughout the State when habitat values change locally.

Implementing the intent of the principles and processes in the Strategy to address possible deficiencies will further ensure that the Dixie National Forest does its part to sustain goshawk habitat in the planning area and maintains connectivity with neighboring habitat areas. That Strategy applies management recommendations contained in the "Habitat Assessment and Management Recommendations for the Northern Goshawk in Utah" recommending actions that should be taken by Utah National Forests and the Bureau of Land Management to restore and maintain goshawk habitat. These agencies will contribute to sustaining short and long term habitat for goshawks which is important to the Statewide viability of the species.

IV. Evaluation of Forest Plan Adequacy for Implementing the Utah Conservation Strategy

The following table lists Utah Conservation Strategy stipulations and compares them to applicable direction in the Dixie Land and Resource Management Plan.

a) Comparison of the Utah Conservation Strategy to Current Forest Plan Goals and Objectives

1998 Conservation Strategy	Dixie National Forest Plan
Goal: (Strategy, Page 6) Provide habitat capable of sustaining viable populations of goshawk in the State of Utah.	<u>*Goal No. 15.*</u> Maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest. (LRMP, page IV-5) <u>*Goal No. 17.*</u> Manage classified species (bald eagle (E), peregrine falcon (E), Utah prairie dog (T), *Astragalus perianus* (E), Bonneville cutthroat trout (S), Colorado River cutthroat trout (S), (E = Endangered, T = Threatened, S = Sensitive) habitat to maintain or enhance their status through direct habitat improvement and agency cooperation. Note: Goshawk is a Region 4 classified species (sensitive). <u>DFC Statement (</u>LRMP, page IV-21) All MIS habitat will be maintained at levels that meet or exceed requirements for minimum viable populations.
Objective 1: (Strategy, Page 6) Design a proactive approach to habitat management which will result in the long-term conservation and management of habitat for goshawk, its prey and other associated species.	<u>*Goal No. 15.*</u> Maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest. (LRMP, page IV-5) *Objective c: (LRMP, page IV-6)* Provide wildlife habitat analysis input to Forest Planning as required to maintain current wildlife outputs.

1998 Conservation Strategy	Dixie National Forest Plan

Objective 2: (Strategy, Page 6) Provide consistency in management of goshawk habitat on National Forest System lands in the State of Utah.	*Goal No. 13.* Coordinate Fish & Wildlife Program with Utah DWR. (LRMP, page IV-5) *Objective* Conduct periodic meetings with Utah DWR to discuss and plan projects that may have effects on fish and wildlife habitat populations. Special emphasis will be on MIS and other selected wildlife species. <u>*Goal No. 15.*</u> Maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest. (LRMP, page IV-5) *Objective e: (LRMP, page IV-6)* Provide wildlife habitat analysis input to Forest Service and non-Forest Service land management activities that will affect the wildlife resources.

b) Comparison of Utah Conservation Strategy Desired Habitat Conditions with Current Forest Plan Direction

1998 Conservation Strategy	Dixie National Forest Plan
1) Diverse forest cover types with strong representation of early seral tree species dominant the landscape. (Strategy, Page 6)	General Direction (LRMP, page IV-25, A00(1,2)): 1. Maintain structural diversity of vegetation on management areas that are dominated by forested ecosystems. 2. Retain existing medium- or high-contrast edges within forested management areas.
2) High quality habitat patches that are no more than 60 miles apart, preferably less than 20 miles apart, exist throughout landscapes (connected habitat). (Strategy, Page 6)	General Direction (LRMP, page IV-33, C01(3)): 3. Manage habitat for viable populations of all existing vertebrate wildlife species. General Direction (LRMP, page IV-35, C02(4)): 4. Provide maximum wildlife habitat diversity .

1998 Conservation Strategy	Dixie National Forest Plan

3) Forested landscapes have 40% of the area dominated by large trees, well distributed. Large trees are defined relative to the average for the cover type and site potential. (Strategy, Page 6)	Structural DFC (LRMP, page II-19, Table II-14) Old Mature Growth Total Ponderosa Pine 25% 10% 35% Mixed Conifer 25% 10% 35% Spruce-fir 25% 10% 35% Aspen 35% 10% 45% General Direction (LRMP, page IV-35, C02(5)): 5. Plan timber harvest on a drainage by drainage basis. Standard and Guideline (LRMP, page IV-35, C02(5)(A): A. A portion of each drainage should be in each age class. Seven to ten percent should be managed as old growth and no less than 10% should be grassland. The remainder should be more or less evenly distributed in the other age classes (20% plus or minus 3).
4) Habitats for prey and other associated species are present to meet needs as described by Reynolds et al. 1992 and Graham et al. 1998, in press (i.e., snags, down woody, cover, etc.) (Strategy, Page 6)	General Direction (LRMP, page IV-25, A00(4)): 4. In forested management areas, maintain a minimum on each treated area, an average of 20-30 snags (in all stages of development) per 10 acres, well distributed over the management areas. Standard and Guideline (LRMP, page IV-25, A00(4)(A): A. Provide at a minimum, an average of 2-12 hard snags per 10 acres of the following minimum diameters (where biologically feasible): --Ponderosa pine, Douglas fir and spruce-fir: 10 inches dbh. --Aspen: 8 inches dbh. Standard and Guideline (LRMP, page IV-25, A00(4)(A): B. Retain an average length per acre of down-dead logs (where feasible) of the following minimum diameters: --Ponderosa pine, Douglas fir and spruce fir - 12 inch diameter; 50 linear feet per acre. --Aspen - 10-inch diameter; 33 linear feet per acre. General Direction (LRMP, page IV-33, C01(3)): 3. Manage habitat for viable populations of all existing vertebrate wildlife species.
5) A variety of structural stages as recommended by Reynolds et al. 1992 are present. (Strategy, Page 6)	Forest Type Structural DFC (page II-19, Table II-14) Old Early Mid Mature Growth Ponderosa Pine 40% 25% 25% 10% Mixed Conifer 40% 25% 25% 10% Spruce-fir 40% 30% 25% 10% Aspen 30% 25% 35% 10%

c) Comparison of the Utah Conservation Strategy Project Stipulations with Current Forest Plan Management Direction, Standards and Guidelines.

1998 Conservation Strategy	Dixie National Forest Plan
Down logs and tons of woody debris per acre: (Strategy, Page 7) ---Ponderosa Pine - at least 3 large downed logs per acre (greater than or equal to 12 inch diameter mid-point, greater than or equal to 8 feet long); 5-7 tons of woody debris per acre. ---Mixed species and spruce-fir - at least 5 large downed logs per acre (greater than or equal to 12 inch diameter mid-point, greater than or equal to 8 feet long); 10-15 tons of woody debris per acre.	Down logs and woody debris per acre: Standard and Guideline (LRMP, page IV-25, A00(4)(A): B. Retain an average length per acre of down-dead logs (where feasible) of the following minimum diameters: --Ponderosa pine, Douglas fir and spruce fir - 12 inch diameter; 50 linear feet per acre. --Aspen - 10 inch diameter; 33 linear feet per acre. General Direction (LRMP, page IV-54, PF11(1)): 1. Maintain fuel conditions which permit fire suppression forces to meet fire protection objectives for the area.
Snags/acre: (Strategy, Page 7) ---Ponderosa pine - at least 2 large snags per acre (greater than or equal to 18 inch dbh, greater than or equal to 30 feet tall) . . ---Mixed species and spruce-fir - at least 3 large snags (greater than or equal to 18 inch dbh, greater than or equal to 30 feet tall) .	Snags/acre: General Direction (LRMP, page IV-25, A00(4)): 4. In forested management areas, maintain a minimum on each treated area, an average of 20-30 snags (in all stages of development) per 10 acres, well distributed over the management areas. Standard and Guideline (LRMP, page IV-25, A00(4)(A): A. Provide at a minimum, an average of 2-12 hard snags per 10 acres of the following minimum diameters (where biologically feasible): --Ponderosa pine, Douglas fir and spruce-fir: 10 inches dbh. --Aspen: 8 inches dbh.
Canopy Cover (Strategy, Page 7) Canopy Cover Nest stand — mid-age — mature — old all forest types — NA — 50-70% — 50-70% Home Range Ponderosa Pine — 40-60% — 40-50+% — 40-50+% Mixed species — 40-60+% — 50-60+% — 60+% Spruce-fir — 40-60+% — 60-70+% — 60-70+%	Canopy Cover The DNF LRMP does not specifically address canopy cover. MD C01(3) states "Manage habitat for viable populations of all existing vertebrate wildlife species." MD C02, 04, 05 and 06 state "Provide maximum wildlife habitat diversity."

1998 Conservation Strategy	Dixie National Forest Plan

<table>
<tr>
<td>Stand structure and Large trees (Strategy, Page 8)

Nest Areas
<table>
<tr><th></th><th>g/f/s</th><th>seed/sap</th><th>young</th><th>mid</th><th>mature</th><th>old</th></tr>
<tr><td>Ponderosa Pine</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td><td>100%</td><td>100%</td></tr>
<tr><td>Mixed Conifer</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td><td>100%</td><td>100%</td></tr>
<tr><td>Spruce-fir</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td><td>100%</td><td>100%</td></tr>
<tr><td>Aspen</td><td colspan="6">none stated</td></tr>
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Home Range
<table>
<tr><th></th><th>g/f/s</th><th>seed/sap</th><th>young</th><th>mid</th><th>mature</th><th>old</th></tr>
<tr><td>Ponderosa Pine</td><td>10%</td><td>10%</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
<tr><td>Mixed Conifer</td><td>10%</td><td>10%</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
<tr><td>Spruce-fir</td><td>10%</td><td>10%</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
<tr><td>Aspen</td><td colspan="6">none stated</td></tr>
</table>
</td>
<td>Stand structure and Large trees:

Forest Type Structural DFC (page II-19, Table II-14)
<table>
<tr><th></th><th>Early</th><th>Mid</th><th>Mature</th><th>Old Growth</th></tr>
<tr><td>Ponderosa Pine</td><td>40%</td><td>25%</td><td>25%</td><td>10%</td></tr>
<tr><td>Mixed Conifer</td><td>40%</td><td>25%</td><td>25%</td><td>10%</td></tr>
<tr><td>Spruce-fir</td><td>40%</td><td>30%*</td><td>25%</td><td>10%</td></tr>
<tr><td>Aspen</td><td>30%</td><td>25%</td><td>35%</td><td>10%</td></tr>
</table>
*This was a typographical error in the original plan and should be 25%.

Standard and Guideline (LRMP, page IV-35, C02(5)(A):
A. A portion of each drainage should be in each age class. Seven to ten percent should be managed as old growth and no less than 10% should be grassland. The remainder should be more or less evenly distributed in the other age classes (20% plus or minus 3).

DFC statement for 7A management area (LRMP, page IV-114):
1. Create and maintain nearly equal areas in seedlings and saplings, pole timber, immature sawtimber and mature sawtimber.
3. Convert slow growing stands of mature sawtimber (beyond mean annual increment for the product size objective) to young, thrifty stands.</td>
</tr>
<tr>
<td>Years to mid-age old forest (VSS 6) (Strategy, Page 8)

*Age to mid age VSS 6 for PP, MS, and S/F is 200+ year.</td>
<td>Years to mid-age old forest
The LRMP addresses age of old forests (old growth in LRMP terms) in the supporting AMS.

<table>
<tr><th>Forest Type</th><th>Minimum Age of Oldest trees</th></tr>
<tr><td>Ponderosa Pine</td><td>180 years</td></tr>
<tr><td>Douglas fir</td><td>200</td></tr>
<tr><td>Mixed species</td><td>180</td></tr>
<tr><td>spruce/fir</td><td>180</td></tr>
<tr><td>aspen</td><td>100</td></tr>
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</td>
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d) Comparison of Utah Conservation Strategy Requirements with Current Forest Plan Management Areas and Prescriptions

There is nothing in the Utah Conservation Strategy that directs the establishment of specific management areas or management prescriptions. All recommendations in the Utah Conservation Strategy would be covered by forestwide direction, standards and guidelines.

e) Comparison of Utah Conservation Strategy requirements with Current Forest Plan Determination of Lands Not Suited for Timber Production.

1998 Conservation Strategy	Dixie National Forest Plan
Nothing in the Strategy would affect this decision point. The Strategy does not preclude the use of mechanical treatments to manipulate vegetation to meet resource objectives.	Table II-21 (LRMP, Page II-28) 9. Unsuitable forest land ..... 378.7 M-Acres 10. Total suitable forest land ..... 300.1 M-Acres General Direction (LRMP, IV-37, Timber Resource Management Planning and Inventories): 1. Identify lands available and suitable for timber production on a sale-by-sale basis.

f) Comparison of Utah Conservation Strategy Monitoring and Evaluation Requirements with Current Forest Plan Requirements

Strategy (Strategy, Pages 9 thru 11)

Habitat Monitoring

The Strategy incorporates two types of monitoring: 1) tracking changes in goshawk habitat over time; and 2) evaluating implementation, and effectiveness of the Strategy in maintaining or improving goshawk habitat. Both types of monitoring will occur to some degree at each planning scale (project, Forest, and statewide).

1. Tracking changes in goshawk habitat over time

This type of monitoring will occur on State and federal lands, statewide. Each Forest will monitor its forested landscapes for the attributes described in the desired habitat condition (DHC) statements provided earlier (early seral tree species, habitat connectivity, large trees, stand level characteristics such as snags and down woody debris, and a variety of vegetative structural stages). At the forest level this is accomplished by identifying changes in habitat caused by management activities or natural events. When conditions are trending away from DHCs, appropriate corrective actions will be developed and implemented. Results of forest-level monitoring will also be aggregated to a central repository at the state level in order to monitor quality and connectivity of statewide habitat. Statewide assessments will also be completed during programmatic planning activities such as Land and Resource Management Plan revisions.

2. Implementation and effectiveness monitoring

Monitoring will be conducted to verify that projects are properly implementing the Strategy, and that they are effective in creating desired habitat conditions for the goshawk and its prey. Monitoring will be part of the design of every project affecting goshawk habitat. Time periods and indicators for monitoring will vary depending upon the purpose of the project; they will be documented in individual project records. At the Forest and statewide levels, monitoring will track the net change in availability and connectivity of high-value goshawk habitat. Monitoring will be reviewed annually at the state level to determine if the Strategy is being successfully implemented or if changes are needed.

An additional indication of the Strategy's effectiveness is provided by territory occupancy (see next section).

Population Monitoring

Concurrent with habitat monitoring, Forests will monitor goshawk territory occupancy. Data will be collected and analyzed at the Forest level and shared with the Utah Division of Wildlife Resources for aggregation to larger scales, including the State. A territory is considered occupied if evidence of goshawk use is present. Nesting does not need to occur for a territory to be occupied. Each agency will be responsible for maintaining and updating its respective population databases, and coordinating findings annually.

This is the minimum level of population monitoring required under the Strategy. Such information will help ensure that there is reproductive potential, in the form of adult birds present on every management unit. Occupancy data are strongly influenced by the level of survey, monitoring effort, and observer training and experience. Therefore, when conducting population monitoring, managers should be prepared to invest sufficient field effort to obtain reliable results.

However, occupancy data have limitations which should be considered during interpretation. Because it does not indicate if reproduction is actually occurring, occupancy is not sensitive to the early stages of habitat decline and may not detect population sinks (areas where goshawks are either nesting unsuccessfully or failing to initiate nesting). Whenever possible, occupancy data should be supplemented with nest productivity data in order to provide additional information on habitat quality.

Monitoring and Evaluation Procedures for Territory Occupancy

Population monitoring will be conducted annually using a random sample of at least 20 territories, or 50% of all known territories, whichever is greater. If fewer than 20 territories are known, monitor all of them. Once a territory is identified, it always remains in the pool of known territories. New territories will be included in the sample as they are located and could be analyzed separately.

If monitoring reveals three consecutive years of a 20% or greater decline in territory occupancy, further evaluation must occur to determine the cause and appropriate corrective action. This evaluation would be conducted by an interagency team. Corrective actions will be determined in part based on the scale at which the populations are declining.

There must be a strong commitment to monitoring both habitat and populations. Failure to make this commitment could result in underestimation of territory occupancy, which could unnecessarily limit management activities. Furthermore, it will result in insufficient information to make necessary management changes.

Management Responses to Suspected Occupancy Declines

Declining occupancy at the landscape level requires review; it does do not necessarily mean that population viability is at risk. If declines at the landscape level occur, only those activities that would benefit habitat for the goshawk at the landscape area should be implemented. If that is not possible in the landscape, habitat should be developed or maintained in adjacent areas.

Declining occupancy in multiple landscapes is serious. Such declines suggest a widespread or systematic problem that could relate to management strategies rather than individual projects. Such declines indicate a need to evaluate conditions over a multiple-landscape scale and develop corrective or compensatory strategies.

Declining occupancy at the forest level could affect findings in project-level Biological Evaluations (BEs) and require review of the Habitat Strategy, Forest or Resource Management Plan direction, and standards and guidelines. Forests should identify the most likely cause of the decline and determine actions to reverse the decline in trend. The Habitat Strategy would only be modified if review indicated that the existing strategy had been fully implemented, and yet habitat was still implicated in the decline. When occupancy is

declining at the forest level, projects should be specifically designed to enhance habitat rather than to mitigate or be neutral in their effects to goshawks.

Dixie National Forest Plan (pages V-5, 6, and 11)

ACTIVITIES, EFFECTS AND RESOURCES TO BE MEASURED	MONITORING METHOD	PRECISION/ RELIABILITY	MEASURE-MENT FREQUENCY	REPORT-ING PERIOD	VARIATION WHICH WOULD CAUSE FURTHER EVALUATION AND/OR CHANGE IN MANAGEMENT DIRECTION
Management Indicators					
c. Goshawk, common flicker, yellow-breasted chat	Nest survey for goshawk	M/M	Annual if population near minimum level, or every 2-5 years in project areas	Annual	10% total declining goshawk population size over a 3-year period
	Variable strip transect for goshawk, common flicker, yellow-breasted chat; sighting records of reliable persons	L/M	Annual if population near minimum level, or every 2-5 years in project areas	Annual	20% decline in chat population size; 25% decline in flicker population size over a 5-year period
b. Snag management	Pre-sale, post-sale, post-fire wood count and condition survey	H/H	Each sale	Annual	10% below specifications of Standards and Guidelines
Compliance with Fuel Loading Standards	Field measurements after activity or fuel treatment	M/M	Sample 30% of projects	5 Years	Exceeding fuel level guidelines or 10% failure to make targets
a. Habitat Diversity	Vegetative composition and age class surveys, calculation of Patton Edge-Shape Index from maps & air photos	M/H	Annual in vegetative manipulation project areas	Annual	Significant variation from Standards and Guidelines specifications; below 7% old growth, less than 7% grass, less than 10% in other age classes

g) Comparison of Utah Conservation Strategy-Recommended Management Activities/Actions that Should be Implemented to Maintain or Improve Habitat for Goshawk with Current Forest Plan Direction

1998 Conservation Strategy	Dixie National Forest Plan
There are a variety of management activities that could be employed to achieve DHC. These activities should be coordinated at the site-specific level by local land managers. However, there is a guideline that almost always applies: -Protect active nest areas (NAs) and their post-fledgling area (PFA) from disturbance during critical phases of reproduction. The recommended seasonal restriction from the Reynolds et al. 1992 is March 1 through September 30. Seasonal restrictions may vary from this recommendation when site-specific information justifies it. (Strategy, Page 11)	General Direction (LRMP, page IV-33, C01(3)): 3. Manage habitat for viable populations of all existing vertebrate wildlife species. General Direction (LRMP, Page IV-34, C02(1)) 1. Use appropriate silvicultural practices to accomplish wildlife habitat objectives forestwide. General Direction (LRMP, Page IV-38, E03(2)) 2. Apply a variety of silviculture systems and harvest methods which best meet resource management objectives. General Direction (LRMP, page IV-55, P15(1)): 1. Use prescribed fire to accomplish resource management objectives, such as resucing fuel load buildup, wildlife habitat improvement, etc..

V. Summary and Conclusions

Implementation of the Utah Conservation Strategy provides reasonable assurance that each National Forest will contribute to the maintenance of high-value, connected goshawk habitat throughout the State of Utah sufficient to promote species viability. The question evaluated by this SIR is the need to amend the existing forest plan in order to apply the recommendations of the Utah Conservation Strategy across the planning area. Section IV of this report compares the recommendations of the Strategy with the six decisions of the forest plan.

The following conclusions are reached as a result of the comparisons:

1. Do forestwide goals and objectives in the current plan embody the spirit and intent of the goals and objectives found in the Utah Conservation Strategy, and to what extent do they complement or conflict with each other in achieving sustainable goshawk habitat?

A comparison of the goals and objectives in both documents shows a strong intent to maintain sufficient habitat to ensure viability of the northern goshawk. Because the goshawk is a classified (Region 4 sensitive) species, the current forest plan requires maintenance or enhancement of its status through habitat improvement. In addition, the status of the goshawk as a management indicator species in the Dixie National Forest Plan requires that sufficient habitat be maintained to protect viability of the species. This is also the specific intent of the Utah Conservation Strategy, demonstrating good alignment between the two documents.

There is no need for additional goals and objectives in the current forest plan to ensure that the Dixie National Forest contributes to the maintenance of high-value, connected goshawk habitat throughout the State of Utah. During forest plan revision efforts (presently in progress), terminology will be updated and clarity in goal and objective statements concerning goshawk, MIS species, and sensitive species will be improved. Forest plan revision is projected to be completed in 2001.

2. To what extent do the forestwide standards in the current forest plan encourage, prohibit or have a neutral effect on implementation of the Utah Conservation Strategy?

and

3. To what extent do the forestwide guidelines in the current forest plan encourage, prohibit or have a neutral effect on implementation of the Utah Conservation Strategy?

The Dixie National Forest Plan (Plan) does not differentiate between standards and guidelines; therefore they will be discussed together. In addition, this section will address forestwide general direction since, in many cases, it provides requirements similar to standards and guidelines.

Diversity

The Utah Conservation Strategy emphasizes the need for diversity of forest cover types, with strong representation of early seral tree species that dominate the landscape. Similarly, the Plan emphasizes diversity in areas dominated by forested ecosystems (LRMP, page IV-25, A00(1,2)). It gives special emphasis to providing maximum habitat diversity (LRMP, page IV-35, C02(4)).

Habitat Connectivity

The Utah Conservation Strategy emphasizes the need to have high-quality habitat patches not more than 60 miles apart (preferably less than 20 miles apart) throughout the landscape. This is important to maintain connectivity of habitat. The Plan, though not addressing connectivity directly, indicates in direction statements that habitat diversity will be maximized, and managed to maintain viable populations of all existing vertebrate wildlife species (LRMP, page IV-33, C01(3) and page IV-35, C02(4)). In order to maximize habitat diversity, connectivity of habitat would be required.

Habitat connectivity is not only important within a planning area, but also with adjacent National Forest lands and lands under other jurisdictions. The Dixie LRMP clearly describes intent to coordinate habitat management activities through the following goals and objectives:

Goal No. 13. Coordinate Fish & Wildlife Program with Utah DWR. (LRMP, page IV-5)

Objective
Conduct periodic meetings with Utah DWR to discuss and plan projects that may have effects on fish and wildlife habitat populations. Special emphasis will be on MIS and other selected wildlife species.

Goal No. 15. Maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest. (LRMP, page IV-5)

Objective e: (LRMP, page IV-6)
Provide wildlife habitat analysis input to Forest Service and non-Forest Service land management activities that will affect the wildlife resources.

The basis for accomplishing this LRMP direction would be use of the best scientific information available at the time of an analysis. Presently, for the goshawk in Utah, this would be the Utah Conservation Strategy and Graham et al. 1998 (in press) publication. Though it is believed that current plan direction is adequate to deal with habitat connectivity, additional guidance on how to assess habitat connectivity for goshawks could be added through the amendment process.

Structural Diversity, Including Having 40% of the Landscape Area in Large Trees

The Utah Conservation Strategy requires structural diversity in forest types, including sustaining large trees on approximately 40% of the forested landscapes. The Plan addresses structural diversity, but varies slightly from that prescribed in the Strategy.

1998 Conservation Strategy	Dixie National Forest Plan
Stand structure and Large trees Nest Areas g/f/s seed/sap young mid mature old Ponderosa Pine 0% 0% 0% 0% 100% 100% Mixed Conifer 0% 0% 0% 0% 100% 100% Spruce-fir 0% 0% 0% 0% 100% 100% Aspen none stated Home Range g/f/s seed/sap young mid mature old Ponderosa Pine 10% 10% 20% 20% 20% 20% Mixed Conifer 10% 10% 20% 20% 20% 20% Spruce-fir 10% 10% 20% 20% 20% 20% Aspen none stated	Stand structure and Large trees: Forest Type Structural DFC (page II-19, Table II-14) Early Mid Mature Old Growth Ponderosa Pine 40% 25% 25% 10% Mixed Conifer 40% 25% 25% 10% Spruce-fir 40% 30%* 25% 10% Aspen 30% 25% 35% 10% *This was a typographical error in the original plan and should be 25%. Standard and Guideline (LRMP, page IV-35, C02(5)(A): A. A portion of each drainage should be in each age class. Seven to ten percent should be managed as old growth and no less than 10% should be grassland. The remainder should be more or less evenly distributed in the other age classes (20% plus or minus 3). DFC statement for 7A management area (LRMP, page IV-114): 1. Create and maintain nearly equal areas in seedlings and saplings, pole timber, immature sawtimber and mature sawtimber. 3. Convert slow growing stands of mature sawtimber (beyond mean annual increment for the product size objective) to young, thrifty stands.

Notes: Based on the latest FIA data (1998), forested land with commercial timber species on them comprises 827,446 acres (FIA timberland) of the 1,883,895 acre planning area (Dixie NF). The FIA data vary slightly from the 1975 and 1980 inventory data used in development of the Forest Plan; these data estimated 678,800 acres of forested land (equivalent to FIA timberland). This figure includes all timberland, both suitable and unsuitable for timber harvest, in all management areas on the Dixie National Forest. The Plan estimated that approximately 300,100 acres of the total forested land was suitable for timber harvest (36% of the FIA, or 44% of the Plan's total estimated acres of timberland). The remainder is unsuitable.

The Plan describes structural conditions in three places, *as noted in the above comparison chart*:

Table II-14 identifies the desired structural condition for all forested land on the Forest. The table from the Strategy also identifies desired structure. The Plan's *early* structural class (40%) is equivalent to the Strategy's structural stage *grass/forb/shrub* (10%) plus *seed/sap* (10%) plus *young* (20%)*;* both the Strategy and Plan specify that 40% of an area be in these structural stages. Where the Strategy and Plan vary is in the *Mid, Mature* and *Old* structural stages. The desired structure in the Plan is to have a greater representation of trees in the *mid* and *mature* structure stages (50 %, versus 40 % in the Strategy); the Strategy puts this 10% difference in the *old* forest stage.

On page IV-35, C02(5)(A), the Plan specifies desired structural condition for forested acres that have been designated as suitable and unsuitable for timber harvest:

A portion of each drainage should be in each age class. Seven to ten percent should be managed as old growth and no less than 10% should be grassland. The remainder should be more or less evenly distributed in the other age classes (20% plus or minus 3).

In terms of the Strategy, this equates to 20% grass/forb/seedling and seedling/sapling (plus or minus 3), 20% pole (plus or minus 3), 20% young (plus or minus 3), 20% mid-age (plus or minus 3), 20% mature (plus or minus 3), and 7-10% old.

Old forest in the Strategy is not equivalent to "old growth" as defined in the Plan. The *Old* forest structural stage represents a size and age class of trees that dominate the overstory. Old growth forests are ecosystems, not just a size class structural stage. Old growth encompasses later stages of stand development that typically differ from earlier stages in a variety of characteristics; these may include tree size, accumulation of large dead woody material, number of canopy layers, species composition, and ecosystem function. Old growth would typically occur in the mid-age to oldest part of the Strategy's *Old* forest structural class. In other words, all of this class is not old growth.

The statement that "no less than 10% should be grassland" has been interpreted two ways on the Dixie National Forest; both result in the same structure in the forested component. The first interpretation that the standard represents *regenerating class*, which is key to perpetuating a sustainable forest; the 10% grassland would be part of the Strategy's 20% comprising the grass/forb/seedling *and* seedling/saplings classes. (Mature and old forests die, or are harvested for products. To ensure replacement, 10% of an area must always be in an early regeneration condition [grass/forb/seedling]).

The second interpretation is that "no less than 10% should be grassland" refers to the *nonforest component* of a drainage. Some grasslands are being converted through plant succession to shrublands or pinyon/juniper woodlands resulting in a net loss of grasslands. Management actions, including fire, can be used to maintain grasslands. Under this interpretation the structural class for *forest land* would be unaffected.

The third place structural condition is described in the Plan is in Management Area 7A (lands allocated for timber production and utilization), in long-range objectives. This management area contains 270,400 acres, of which 218,693 are suitable for timber harvest. These 218,693 acres represent approximately 26% of the 827,446 acres of timberland on the Dixie (FIA, 1998). The remaining 608,753 acres are either unsuitable for timber harvest or have emphasis for other resource purposes (e.g., recreation, wildlife). The objectives apply only to the 218,693 acres of suitable timberland, and were written for the planning horizon (50 years or year 2030).

Create and maintain nearly equal areas of seedlings and saplings, pole timber, immature sawtimber and mature sawtimber.

The objective is equivalent to the percentages in the standard on page IV-35 of the Plan. The specification for 7-10% old growth has always been treated as a forestwide standard; it applies across all areas of the forest unless superceded by management area direction. Because the 7A management area does not contain a standard or guideline for old growth, the forestwide old growth standard applies. Therefore, when creating or maintaining nearly equal areas of the other classes referred to in the objective, one must first account for the 7-10% old growth.

Convert slow growing stands of mature sawtimber (beyond culmination of mean annual increment for the product size objective) to young, thrifty stands of desirable species.

The emphasis on treating the mature and old class over the planning horizon was due to the structural character of each of the major forest types in the planning area at the time of the original planning effort. It was

estimated in the early 1980s that 90% of the aspen type, 65% of the ponderosa pine type, 80% of the mixed conifer type, and 90% of the spruce fir type were in the mature and old class (LRMP, page II-19, Table II-14). In order to achieve the objective of creating nearly equal areas of each class, treatments were emphasized in those classes identified as having excesses, in this case the old and mature classes.

The last part of this objective statement refers to "thrifty stands of desirable species." Desirable species described in the Plan are the seral conifer species described under the Strategy. Aspen--a seral hardwood species emphasized in the Strategy--appears to be de-emphasized in the 7A management area where it is a component of a conifer type (e.g., mixed conifer and spruce/fir); however, in the aspen forest type, aspen is emphasized. The important role of aspen in the mix of conifer types will be clarified during plan revision; it does not pose an issue of Plan consistency, vision, or operational sideboards that requires an immediate amendment.

The emphasis on removal of the mature and old class during the current planning period is *not* counter to the intent of the conservation strategy. The purpose of this removal is to move toward a balance of age classes; this is also, in part, the goal of the strategy. Amending the plan to reflect an interest in retaining more areas in mature and old tree classes (discussed below) reflects a change in what classes are represented in the balance discussed in the 7A management area. The balance of age classes, including 40% in the mature and old classes, will be a forestwide goal. Thus it will apply in all management areas, including 7A.

Age of Old Forest

The age of the old forest component under the Strategy and the Plan is essentially the same. The Strategy refers to the *mid-age* of old forest as being 200+ years; the Plan refers to the *minimum* age of old forest as being between 180-200 years for coniferous forest and 100 years for aspen. The minimum age of old forest under the Strategy would be less than that stated for mid-age; a minimum age of 180-200 years would be a reasonable estimate. The Strategy does not discuss age of an old aspen forest.

Snags and Down Woody Material

The Strategy provides requirements for management of prey habitat such as snags and down woody material.

- Page 7: *Ponderosa pine* - at least 2 large snags per acre (greater than or equal to 18 inch dbh, greater than or equal to 30 feet tall). *Mixed species and spruce-fir* - at least 3 large snags (greater than or equal to 18 inch dbh, greater than or equal to 30 feet tall).

- Page 7: *Ponderosa pine* - at least 3 large downed logs per acre (greater than or equal to 12 inch diameter mid-point, greater than or equal to 8 feet long); 5-7 tons of woody debris per acre. *Mixed species and spruce-fir* - at least 5 large downed logs per acre (greater than or equal to 12 inch diameter mid-point, greater than or equal to 8 feet long); 10-15 tons of woody debris per acre.

Likewise, the Dixie National Forest Plan includes direction and standards and guidelines to maintain habitat for prey species. Specifically, the Plan sets minimum requirements for the size and number of snags and down woody material.

- Page IV-25, A00(4)(A): Provide, at a minimum, an average of 2-12 hard snags per 10 acres of the following minimum diameters (where biologically feasible): ponderosa pine, Douglas fir and spruce-fir -- 10 inches dbh; aspen -- 8 inches dbh.

- Page IV-25, A00(4)(A), Standards and Guidelines: Retain an average length-per-acre of down-dead logs (where feasible) of the following minimum diameters: ponderosa pine, Douglas fir and spruce fir -- 12 inch diameter, 50 linear feet per acre; aspen -- 10 inch diameter; 33 linear feet per acre.

At the project level, increasing the size and number of snags over the minimums stated in the Plan would not conflict with Plan direction. However, the minimum requirements in the Strategy further constrict the Plan's operating "sideboards" as defined in current management direction; that is, retention of snags of 18 inch dbh (where site capability permits) has become the new minimum where goshawk habitat is involved.

Both the Utah Conservation Strategy and the Forest Plan emphasize retention of down woody debris and cover, which are components of prey habitat. The Plan's standards and guidelines for down logs meet or exceed requirements in the Strategy.

Canopy Cover

The strategy specifically states canopy cover requirements at page 7. The Forest Plan, though recognizing the need to "Provide maximum wildlife habitat diversity" (LRMP, IV-35, C02(4)), does not specifically define any standards and guidelines concerning canopy cover. As with snags, at the project level, using the strategy defined canopy cover would be consistent with plan direction to provide maximum wildlife habitat diversity. However, the defined requirements in the strategy constrict the Plan's operating "sideboards" as defined in current management direction; that is, canopy cover requirements defined in the strategy provide clear sideboards on how this aspect of wildlife habitat diversity will now be achieved forestwide.

Management Activities/Actions that Should be Implemented

The Utah Conservation Strategy states that "there are a variety of management activities that could be employed to achieve DHC. These activities should be coordinated at site-specific level by local land managers." Similarly, the Dixie National Forest Plan provides direction to "use appropriate silvicultural practices to accomplish wildlife habitat objectives forestwide" (LRMP, page IV-34, C02(1)) and "apply a variety of silviculture systems and harvest methods which best meet resource management objectives" (LRMP, page IV-38, EO3(2)).

The Strategy requires that managers "protect active nests and their post-fledgling area (PFA) from disturbance during critical phases on reproduction. The recommended seasonal restriction from the Reynolds et al. 1992 is March 1 through September 30. Seasonal restrictions may vary from this recommendation when site-specific information justifies it." The Plan provides direction to "manage habitat for viable populations of all existing vertebrate wildlife species." To comply with this direction, active nests and post-fledgling areas associated with a specific project would be protected as outlined in the project Biological Evaluation.

Conclusions for Standards and Guidelines

The Reynolds et al. recommendations (the foundation of the Strategy) were developed for the Southwestern Region (Region 3) of the Forest Service. On October 13, 1992 the Intermountain (R-4) Regional Forester sent a memo to all Forest Supervisors stating that "Forests should use the Scientific Committee's recommendations as important new information to be considered along with other goshawk and ecosystem management information that may be available for their specific habitat types."

As recommended by the Regional Forester, the Dixie National Forest has been drawing from the intent of the Reynolds et al. recommendations when designing projects involving goshawk habitat since 1992. Drawing from the intent of these recommendations during project design was intended to be in effect until such time that a strategy was developed specifically for habitats in Intermountain Region (Region 4).

Current forest plan direction, standards, and guidelines do not prohibit adherence to Strategy stipulations at the project level; Strategy requirements are consistent with current forest plan direction. The guideline for 10% old growth by drainage in the Forest Plan does not prohibit retention of additional large trees on a site-specific basis to meet project objectives. This is particularly true for projects involving Forest Plan MIS species such as the goshawk: forestwide direction requires us to "manage habitat for viable populations of all existing vertebrate wildlife species," and this is accomplished through the management of habitat for MIS species.

Moreover, management of habitat to maintain viable populations is founded in federal regulation (CFR 219.19). This requirement must be accomplished. Thus, at the project level, use of the Reynolds et al. recommendations is consistent with the Plan.

Strategy requirements related to diversity, age of old forest, down woody material, and management activities/actions are consistent with current Plan direction; moreover, they do not alter the Plan's vision, and do not change operational sideboards. Any adjustments in terminology to improve clarity of management direction can be accomplished during forest plan revision efforts presently under way. Revision of the Forest Plan is projected to be completed in 2001.

Strategy requirements related to structural diversity (specifically 20% old forest) snags, canopy cover, and habitat connectivity are consistent with Plan direction when applied at the project level (a small area of the total Forest). However, because implementing the Strategy requires application of its requirements across *all forested acres in the planning area* (not just an individual project area), the vision for the structural distribution of forest on landscapes has changed in favor of greater retention of old forest. Also, although the 18" minimum DBH snag requirement in the Strategy (i.e., coniferous forest presently described) is consistent with the 12" minimum DBH snag requirement in the Plan insofar as project level application goes, the Strategy requirement has changed the operational sideboards a deciding officer has to work within. In potential goshawk habitat areas presently described in the strategy, the minimum snag DBH is now 18". A line officer can no longer elect to leave snags between 12" and 17" DBH when 18" DBH snags are available or can be recruited in the future. This constriction of operational sideboards is true for numbers of snags as well. In addition, though retention of the desired canopy cover described in the strategy is consistent with current plan direction to "Provide maximum wildlife habitat diversity" insofar as project level application goes, the defined strategy requirements for canopy cover have changed the operational sideboards. These changes in vision and operational sideboards will require a forest plan amendment. Through the amendment process guidance should also be provided on how to assess habitat connectivity for the goshawk.

These amendments should account for the ecological differences in vegetation types (i.e., one landscape scale for assessment of attributes will not necessarily fit all vegetative communities) and the variability in productive potential of sites (i.e., some sites can produce larger trees than other sites, both within and among vegetative communities).

4. To what extent do current forest plan management areas and prescriptions permit or prohibit implementation of the Utah Conservation Strategy?

There is nothing in the Utah Conservation Strategy which directs the establishment of specific management areas or specific management prescriptions. Management of habitat for Forest Plan MIS species such as the goshawk is provided through forestwide direction that applies to all management areas; it requires us to "manage habitat for viable populations of all existing vertebrate wildlife species." Thus, the Plan prescribes management of habitat for the goshawk sufficient to maintain viable populations, other direction or standards

notwithstanding. Meeting this Plan requirement is further assured through the project NEPA decision and associated Biological Evaluation.

Moreover, management of habitat to maintain viable populations is founded in federal regulation (CFR 219.19). This requirement must be accomplished.

5. Would implementation of the Utah Conservation Strategy affect the decision made in the Forest Plan for lands not suited for timber production?

The requirement to identify and make decisions for lands not suited for timber production is found in C.F.R. 219.14 (timber resource land suitability). This requirement has been addressed in the Dixie National Forest Plan as geneV-37). The Record of Decision for the Plan recognized the importance of this decision when it stated that "under the Forest Plan, suitable timber base is composed of lands that are economically efficient in meeting timber production and other resource goals. A balance is struck between conflicting interests that best meet needs of forest resources and those dependent on national forest timber." (ROD for Dixie National Forest LRMP, Page 9)

To determine whether the Strategy would affect the decision made in the Plan for lands not suited for timber production, the four factors found at C.F.R. 219.14 were assessed:

1. The land is not forest land as defined by the CFR.
   The Strategy does not change forest land to non-forest land.
2. Technology is not available to assure timber production without irreversible resource damage.
   The Strategy does not require actions that cause irreversible resource damage.
3. There is not reasonable assurance that such lands can be adequately restocked.
   The Strategy does not require actions that affect ability to restock lands.
4. The land has withdrawn from timber production by act an Act of Congress, the Secretary of Agriculture or the Chief of the Forest Service.
   The Strategy does not withdraw lands from timber production.

Implementation of the Utah Conservation Strategy would not change the decision concerning lands classified as not suited for timber production in the Dixie National Forest Plan.

6. Are current forest plan monitoring and evaluation requirements sufficient if the Utah Conservation Strategy is implemented?

The Strategy identifies the need to monitor and evaluate habitat, as well as population trends. It prescribes general methodology to accomplish monitoring, and actions if deficiencies are found. Dixie National Forest Plan also specifies monitoring and evaluation procedures for elements that affect goshawk habitat and numbers. The Plan monitors habitat diversity by requiring surveys of vegetative composition and age class, field measurements of down woody debris after activities or fuel treatments, and snag inventories. To address population trends, the Plan requires monitoring of known goshawk nest locations for nesting success; prescribes procedures for inventorying new nest locations; and identifies the percentage of declines (similar to the Strategy) that would trigger further evaluations, or the need to change management direction.

While both the Strategy and the Plan require monitoring, the Strategy specifies that population trends and viability determinations will be made at the State rather than the Forest level. It reinforces the importance of population surveys at the Forest level so that each Forest(s) contribution to maintaining statewide habitat can be identified. This is not contrary to the monitoring requirements in the Plan, which use population monitoring as a measure of habitat adequacy to sustain viable populations.

The Strategy outlines management response to suspected population declines at the landscape, multiple landscape, and Forest levels. The Plan states that we will evaluate when a decline is observed, but it is does not describe management response to population declines at different landscape levels. Use of the Strategy's management response requirements is consistent with the Plan requirement for further evaluations and decisions to change management direction.

VI. Determination of Need to Amend Current Forest Plan

Based on the above comparisons, assessments, and conclusions, I have determined that implementation of the Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah is consistent with the six decisions made in the existing Dixie National Forest Plan. However, Strategy requirements for greater retention of old forest will change the "vision" of forested lands depicted in the Plan for the planning horizon (50+ years). In addition, the minimum dbh and number of snags and canopy cover requirements found in the Strategy change the operational sideboards of standards in the Plan. A forest plan amendment should be completed to address structural diversity, snag management, and canopy cover for forest types found in the Utah Conservation Strategy. As part of the amendment process guidance on how to assess habitat connectivity for goshawks should also be added.

Significance of proposed forest plan amendments

1) Timing
Implementation of the Strategy at the project level is consistent with current forest plan direction for reasons previously described. However, Strategy recommendations change the long-term vision of forest structure, and operational sideboards for snags and canopy cover. In addition, guidance on how to assess habitat connectivity for the goshawk should be provided. The Plan should be amended as soon as it is practical from a personnel and budget perspective.

2) Location and Scale
The proposed amendments would affect all forested acres within the planning area. This scale of affected area (planning area) considered over an entire planning horizon (50+ years) suggests a significant effect. However, the type of assessment needed to determine these effects is best handled during forest plan revision (projected to be completed in 2001).

Determination of the need for an immediate interim amendment to the Plan is based on the scale of disturbance activities anticipated, between now and when a revised plan is implemented, that may affect habitat for the goshawk. The Dixie National Forest treats from 2500 to 8700 acres of timberland a year; in the 3 years remaining before projected completion of forest plan revision, that would represent 1 to 3 percent of total timberland on the Dixie National Forest. This is not considered a significant amount of the planning area. However, to preserve options for revision, an interim amendment should be completed that reflects the new "vision" for the forest, provides greater assurance of adequate snag retention and canopy cover, and provides clear guidance on how to assess habitat connectivity for the goshawk.

3) Goals, Objectives and Outputs
Based on discussion above there is no need to change Plan's goals and objectives except as needed to reflect the desire to have a forest with a greater old forest component that is adequately connected. Updating terminology and clarifying other existing goals and objectives will occur during forest plan revision.

Of the outputs and services provided for under the current forest plan, the only one that was identified as a potential concern prior to forest plan revision was forest ASQ. There is no indication that other outputs and services provided for under the current plan (i.e., recreation, range forage, other wildlife habitat, etc.) would be noticeably affected by the proposed *interim* amendments prior to forest plan revision.

Based on reviews of annual harvest records on the Dixie National Forest, there is no indication that use of the Reynolds et al. recommendations from 1992 to 1997 has substantially changed the volume of timber outputs compared to outputs in the first part of the planning decade (1987-1991). Though this review reveals shortfalls in total volume in the period 1991 to 1997, when compared to 1987 to 1990 (attachment 1), total annual volume declines reflect effects of the substantial increase in appeals and litigation since 1990. Projects under active appeal or litigation are not harvested and therefore do not show up in annual totals. Also, ASQ is a *ceiling*, not a *requirement* in the Forest Plan.

A better gauge of the effect of leaving more big trees, larger snags and potentially more canopy cover is the average volume per acre that is removed (attachment 2). The volume per acre removed from 1987 to 1990 ranged from 2800 board feet/acre to 4200 board feet/acre. The volume per acre removed from 1991 to 1997 ranged from 2100 board feet/acre to 5000 board feet/acre. Based on range of volume per acre, use of the Reynolds et al. recommendations has not measurably changed total volume removed from an acre. Therefore, no measurable effect to outputs is evident.

Although total volume has not measurably changed, average sawlog size has generally become smaller. This reduction results from leaving more large trees, and removing smaller trees from below. However, there is no sawlog size direction in the Plan. The only statement in the Plan that addresses sawlog size is found in 7A Management Area Direction (LRMP, page IV-116): "Management emphasis is on wood-fiber production and utilization of large roundwood of a size and quality suitable for sawtimber." Removal of a greater number of smaller sawlogs that are still suitable does not conflict with this direction.

We believe the proposed *interim* amendments would not result in a measurable change in outputs and services over the remainder of this planning period. Effects to outputs over the longer planning horizon (50+ years) are most appropriately evaluated, and adjustments made, during the revision process, when all resource factors are considered concurrently. Revision of the Forest Plan is projected to be completed in 2001.

4) Management Prescriptions

There is nothing in the Utah Conservation Strategy that directs establishment of specific management areas or specific management prescriptions. Management of habitat for Forest Plan MIS species such as the goshawk is provided through forestwide direction that applies to all management areas; it is an inherent part of their associated prescriptions.

CONCLUSION

Interim amendments to the current Dixie National Forest Land and Resource Management Plan will be completed to address the recommended change in long-term vision of forest structure (a greater amount of old forest), operational sideboards for snags and canopy cover, and to provide guidance on how to assess habitat connectivity for the goshawk. Based on the finding that these *interim* amendments would not have a significant effect on the Forest Plan outputs and services prior to forest plan revision and that use of the Strategy at the project level is consistent with current Forest Plan direction, use of the strategy at the project level should continue during the amendment process. The *interim amendment* process is projected to be completed during the summer of 1999. These amendments will be incorporated into current forest plan direction, as well as into direction in the revised forest plan projected to be completed by 2001.

This assessment will be aggregated with the assessments of the other five National Forests in Utah, and delivered to the Regional Forester. The Regional Forester will review the findings of each Forest assessment to determine what immediate interim amendments to the Regional Guide and/or forest plans are warranted. Because the Strategy may affect current direction in all Forest plans in Utah, the process for completing *interim amendments* will be handled at the Regional level instead of by each individual Forest. The *interim amendments* will preserve options for the future that will be considered during the Forest Plan revision process conducted by all Forests in Utah over the next 2 to 4 years.

/s/Hugh C. Thompson DATE: 10/28/98

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