

United States
Department of
Agriculture

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Southwestern
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Holistic Resource Management (HRM) Dodson Pilot Project Summary

Apache-Sitgreaves National Forest



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Summarized by:

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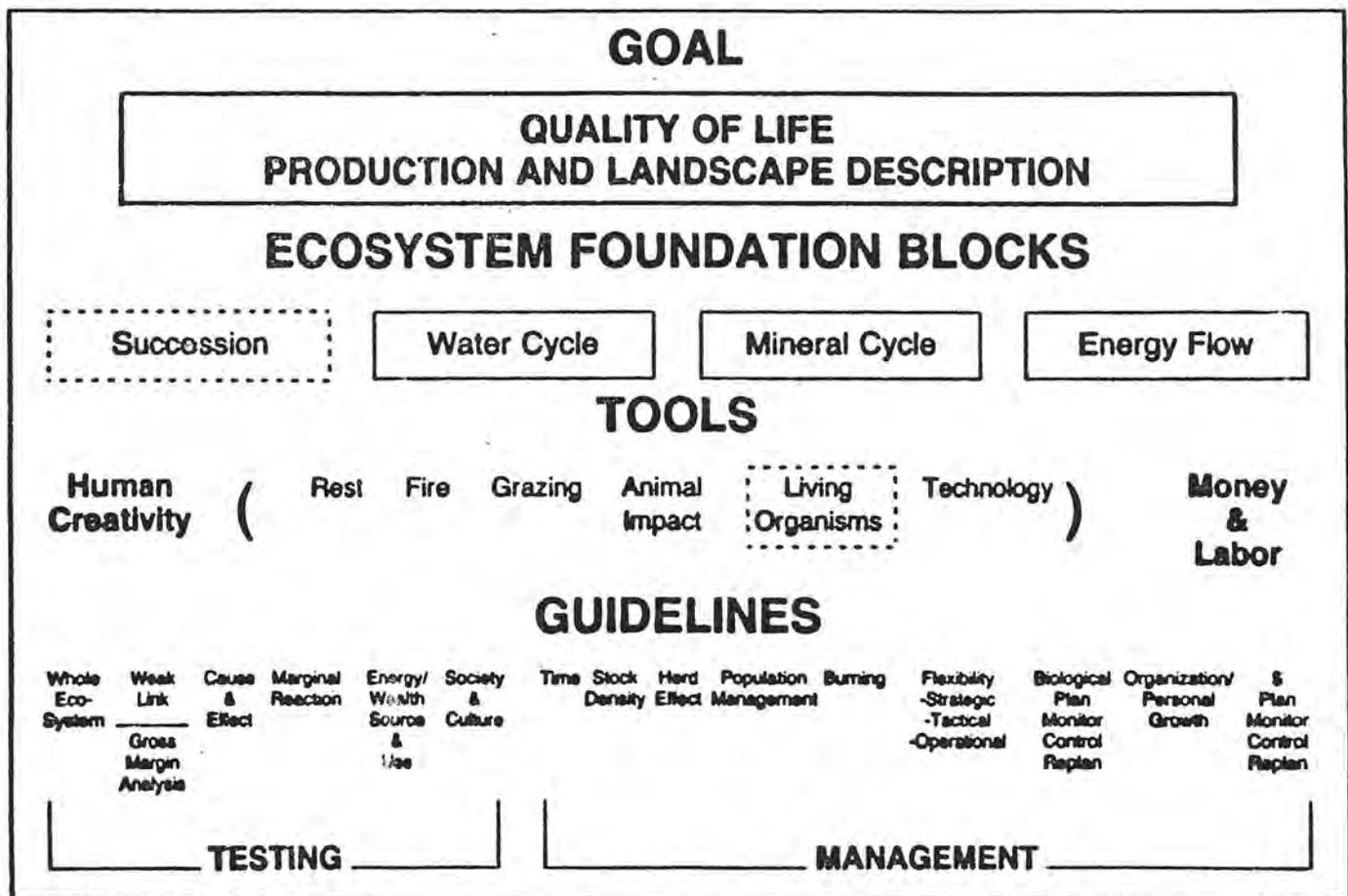
Allan Savory
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What This Summary is About

In 1983, the Southwestern Region of the USDA Forest Service initiated two pilot projects to practice the management method known at that time as the Savory Grazing Method (SGM). One project area selected was the Dodson Allotment on the Apache-Sitgreaves National Forest. The practice of SGM in many different locations has provided the insight, progress and learning experiences which have been incorporated into holistic management as practiced, taught, and prescribed by the Center for Holistic Resource Management (Center). The current Holistic Resource Management (HRM) model captures a thought process which organizes people's thinking and planning skills and helps people to make sound ecological, financial and resource management decisions or policies.

This summary conveys the experiences we feel need to be shared, what we feel we learned as a result of this project, and recommendations we feel are necessary to be successful in practicing holistic management.

Much was learned that can help us in our continuing efforts to manage for healthy plants, healthy animals, healthy land, and healthy societies.



Holistic resource management model.

The Nature of the Problem

The Dodson Allotment area is located in the piñon-juniper vegetation type. The grasslands in the area are predominately short perennial grasses with an obvious lack of tall bunch grasses. The plant and animal community is not ecologically healthy. Bare soil and soil erosion was and is readily apparent throughout the area. Many perennial grass species have died or are dying while very few such grasses are becoming established. In the grassland component of the vegetation, there are obvious accumulations of old, oxidizing plant material which, over time, will "choke" the plant. The interspaces between plants are not "filling in" with new plants. The bare ground between plants is either crusted with algae, "sealed" with no visible sign of plant succession movement, or too loose and uncompacted. Such soil conditions do not provide the seed-to-soil contact or the seedbed necessary for seedling establishment.

The same conditions persist not only in the areas that have been grazed by livestock but in areas that have been rested from livestock grazing for many years. Rested areas that have been protected from all livestock grazing show a lot of bare soil, soil erosion, oxidized material, "choking" plants, and limited forage production.

Past management actions to correct such conditions have basically been to provide prolonged rest from livestock grazing, to lightly scatter livestock over the land while allowing them to graze for long lengths of time during variable calendar periods, to use prescribed fire, and to apply various mechanical or technological practices to portions of the land area. Past actions have not corrected the unhealthy vegetation and poor soil conditions.

Serious consideration needs to be given to limiting the duration or time of grazing so that individual plant overgrazing can be minimized and the desirable effects or nature of proper animal impacts can be realized. The purpose for taking these actions is to provide as much annual growth as possible, to use domestic livestock as a tool to help cycle annual growth back into the ecosystem, to help provide the seed-to-soil contact needed for improved seedling establishment, and to help improve the infiltration capability of the soil in order to increase effective precipitation.

What We Did, Learned, Recommend

The Dodson Allotment pilot project was initiated on-the-ground in 1983 and is being summarized as of June 1990. It has been a valuable learning project. We have learned much.

At the time of initiation, the ranch operator and USDA Forest Service personnel involved attended an introductory course on SGM. SGM processes have been improved and are now incorporated into the holistic management processes prescribed by the Center.

To be successful in practicing holistic management, it is necessary to be diligent in self-training; self-study; keeping current on available books, workbooks, worksheets and newsletters; to take advantage of the courses offered by the Center as they become available; in short: to stay seriously committed to developing your holistic management understanding and skills. Association with a holistic management club will help enhance individual understanding, commitment and diagnostic skills for practicing holistic management.

It is recommended the strategic, management and operation teams (Teams) involved with the Dodson area improve their holistic management understanding, skills, and degree of commitment to practicing holistic management. This is a continuing need and challenge.

Temporary goals were developed in 1983 and were reviewed and updated in 1986.

It is apparent it is necessary to have a broad array of interests and individuals involved in developing the goals for an area; to gain or establish a deep-seated commitment by the people involved; and to review, expand, and gain re-commitment to the goals at regular intervals. It is impossible to practice holistic management without a three part goal all parties are committed to.

Real or imagined institutional restraints, differences in individual "hidden goals," "turf protection," and individual mind-sets all need to be addressed in a truly collaborative atmosphere in order to establish and achieve the goals for an area through

practicing the principles, concepts, and "check-points" incorporated in the holistic management process.

The Dodson Teams need to develop a higher degree of understanding, improve individual skills and work closer together in order to address the goals they want to achieve. Individuals need to really put aside the systems/production mind set which is still largely where we feel we are at this point in time. We need to strive to create the mind set, which will allow us to open our thought processes to developing and accepting resource, financial and interpersonal decisions based on a decision model that uses fundamental ecological process impacts or changes as a foundation for such decisions.

It is recommended the Dodson Teams review their goals, expand them as necessary, and gain commitment by the people involved in those goals. The individuals involved in this project have changed dramatically during the past 7 years. A broader array of interests and people need to be involved in this effort.

An overall strategic level ranch plan was roughed out by the ranch operator.

To the best of our knowledge, collaborative efforts involving the Teams have been limited. Individuals on these Teams have little or no understanding or ownership in that plan and they feel no commitment to support it.

It is recommended these Teams work together and develop the trusting, open, caring relationships that will allow the collaborative atmosphere, attitude, and decisions needed to successfully practice holistic management.

The Dodson area development was approached and initiated with a systems/production, "grazing cell" mind-set or approach. That is — let us develop a grazing cell over the entire area, initiate the biological planning process to work toward our temporary goals and solve the bare soil, soil erosion, overgrazing, overresting, and limited forage production problems in the next 3-5 years. Allan Savory agreed with the planned layout on the ground. It was anticipated the Teams would develop the necessary understanding and skills to successfully collaborate together and practice holistic management.

That was the level of understanding that the Dodson Teams had grasped at that point in time. Holistic management has evolved, changed and improved rapidly since 1983. Most team members have not kept pace with these changes. The testing guidelines were not given enough thoughtful consideration. Had enough consideration been given to them, we feel we would have approached the area development in a different manner. Based on the benefit of our hindsight, we feel we would have developed the paddocks much more slowly as a result of better understanding and use of the testing guidelines, that the paddocks would have been more concentrated on the best production sites and the investments in the cell center would have been reduced substantially.

Proper consideration for the testing and management guidelines which are a part of the holistic management process and the necessary attention given to the biological planning process is a result of the degree of holistic management understanding and skill that individuals have been able and willing to develop.

We recommend the Dodson Teams make full use of the testing guidelines and the HRM model as they continue their holistic management efforts in the area.

LIVING ORGANISMS • ANIMAL IMPACT • GRAZING are land and vegetation treatment tools that provide the possibility of converting animal forage into a form (litter, manure, urine) which reduces oxidation of plant material in seasonal rainfall environments and prevents it from killing plants. The tool of animal impact will also enhance the seed-to-soil contact that is needed for seedling/plant establishment. Our present restraints on livestock numbers, the lack of animal concentration and herd effect or excited herd behavior is currently preventing the necessary treatment from being applied.

It is obvious all members of the Teams are not comfortable with the combination of these three tools as a possibility for resolving this problem. The mind-set that too many animals equal overgrazing must be re-thought in terms of the biological planning approach available to us. We must recognize overgrazing is a result of the time plants are exposed to grazing animals and the length of time between such exposures. It is suggested that some small areas be fenced, 1 acre or so in size, and be subjected to extremely high animal impact once or twice a year to show what results can be expected. This land treatment can then be expanded to larger land areas through the use of animal attractants and training.

The Teams have not dedicated the necessary time and energy to develop the collaborative atmosphere necessary to trust and use the skills and judgements of each individual and to agree to take the management action or make the changes that are and were recognized as being needed.

Biological planning has not been used effectively on the Dodson project.

It is recommended the biological planning be done fully and used effectively with the necessary monitoring and followup actions being implemented to successfully use available tools to restore species diversity, maintain healthy plants, and improve the plant decay processes.

Objective measurement techniques commonly used were established in 1983 for monitoring purposes. Such monitoring was intended to provide indications of the "long term" plant community and ground cover trends.

Monitoring measurements and observations indicate little, if any, improvement over the entire area in the amounts of bare soil, reduced soil erosion, establishment of perennial grass plants, reduced amounts of oxidized material and increased forage production. There are small areas where the plant community and ground cover did improve.

There are indications the amount of overgrazing has been reduced but that increased wind erosion may be occurring because the soil is more loose but seedling establishment is not successfully being accomplished. Overrested plants are evident.

The present monitoring techniques do not capture the information needed to pick up early changes that indicate what impacts our management actions may be having on the four basic ecosystem foundation blocks.

The Center has developed a technique to provide information on such early ecosystem changes. The Center was represented on the Dodson Strategic Team but the collaborative atmosphere necessary to fully utilize the skills of all team members has not been adequately developed.

The monitoring incorporated as part of the biological planning process has been limited and has not been recorded so the information base such records would provide is not available.

Diagnosis of the monitoring information and observations made during the June 25, 1990, field trip indicate the proportion of rest is too high. In thinking of the tools available for use, the following possibilities and evaluation were discussed:

REST - The oxidized material indicates overrest is part of the problem.

FIRE - Would result in rapid oxidation of the old plant material and would increase the bare ground.

TECHNOLOGY - There is no technology we are aware of which can accomplish the two necessary tasks of: (1) converting annual forage production into a high grade mulch that will provide the seed-to-soil contact or the seedbed needed for seedling establishment and (2) enhancing the decay portion of the annual forage life cycle by reducing oxidation.

LIVING ORGANISMS - ANIMAL IMPACT - GRAZING - Offer the possibility, if used correctly, to improve the ecosystem conditions that need attention.

What is clear is that the management actions that have been taken during the past 6+ years will not reverse the present problem of desertification which is occurring on the Dodson Allotment area.

It is recommended the present monitoring efforts be evaluated. Monitoring techniques which provide "early change" information need to be used. The control process, incorporated in

holistic management, which calls for the necessary management adjustments must also be taken once those adjustments are identified.

Continuing holistic management will be dependent on the operation teams willingness to be more intensely involved, the willingness of the agencies involved to "let go" of institutional restraints which do not violate laws they must abide by, and the willingness of all parties involved to use the HRM model fully and freely as a diagnostic and analysis model or thought process in monitoring the project, making the necessary management decisions, and implementing the control actions necessary to achieve the goals.

This will require a full commitment:

- To reform the strategic team with a much broader array of interests.
- To reform the management team.
- For all Team members to improve their individual and collective skills concerning holistic management.
- For all Team members to improve their collaborative skills and the relationships necessary to work together as a Team.
- To develop a true 3-part goal all Team members are deeply committed to.
- To effectively and fully use the HRM model in making all management decisions.
- To effectively and fully use the biological planning process.
- To effectively and fully implement the control actions necessary to progress toward the goals.
- For Team members to associate themselves with a holistic management club.

We recommend that USDA Forest Service management teams and the Dodson Teams involved with this land area start to fully practice holistic management.

The Center is developing a decision model or thought process that is simple and "common sense" enough to be understood and used by people who develop the ability to think "openly", and who have a continuing serious commitment to self-training.

We recommend that personnel from the Center be a part of the Dodson area effort to ensure that holistic management is being practiced to the best of our ability with the latest information that has been gained from the "feedback" the Center is constantly receiving. It will be necessary to cover the Centers expenses associated with this effort since the Center is an unsubsidized non profit organization.

We recommend use of the HRM model to evaluate USDA Forest Service decisions. It is the only decision model we are aware of which uses fundamental ecological processes as a foundation for natural resource decisions. The model incorporates financial, interpersonal, and biological thought processes that quicken peoples abilities or helps people and groups organize

thinking and planning based on an ecological foundation. The thought process involved can only improve the decisions made. Working through the biological planning process on any natural resource decision will provide an organized "picture" of the management factors associated with each particular use of a specific land area and provide the "checkpoints" that need to be monitored to achieve the best management possible.

We recommend all USDA Forest Service personnel be encouraged to develop an understanding of holistic management and the skills needed to identify the ecological impacts our management decisions are having and will continue to have.

We recommend all National Forest permit holders be encouraged to make use of the HRM model to evaluate their decisions. Use of the financial planning and control processes will greatly enhance their financial position and proper use of the biological planning and control processes will enhance the health of the ecosystems.

Conclusions

The Dodson Allotment pilot project for practicing holistic management provided an excellent learning opportunity. The land improvement we set out to achieve has not been accomplished because we have not practiced holistic management. We can build on the skills we have started to develop and be successful if we are willing to do so.

We feel holistic management should be practiced on the Dodson Allotment and other land associated with the ranch operation involved. It should continue to be used as a valuable learning opportunity for the USDA Forest Service.

The USDA Forest Service is deeply concerned, as is the agricultural community and various environmental organizations with the continuing land desertification which is taking place. We have not been successful in maintaining the initial life cycle—birth, growth, death and decay—in seasonal rainfall environments. The USDA Forest Service and other agencies are increasingly “under fire” for not being able to resolve this challenge.

Vast volumes of annual growth, which die each year, need to decay and be cycled back into the ecosystem in a brief period of time each year. History indicates this was enhanced in

almost all seasonal rainfall environments as a result of the role of vast numbers of herbivores and the herding behavior triggered by the predators.

We have attempted to use the tools of fire, rest, lightly scattered livestock, or technology to enhance the cycling of the annual growth back into the ecosystem but unfortunately we are not being highly successful. Domestic livestock can be grazed in a manner which will simulate the herding behavior triggered by predators but public opinion, misunderstanding, institutional restraints, and individual prejudices will have to be overcome in order to use such a management tool effectively.

The problem of desertification still exists. It clearly will not be stopped using the tool of rest as presently being applied nor using the tools of living organisms, animal impact and grazing as presently being applied.

The HRM model offers an implementable, economic decision process for resolving the continuing desertification problem occurring on public lands in seasonal rainfall environments.

Monitoring data has not been included in this report. The monitoring data is on file at the Apache-Sitgreaves National Forest, P.O. Box 640, Springerville, AZ 85938.