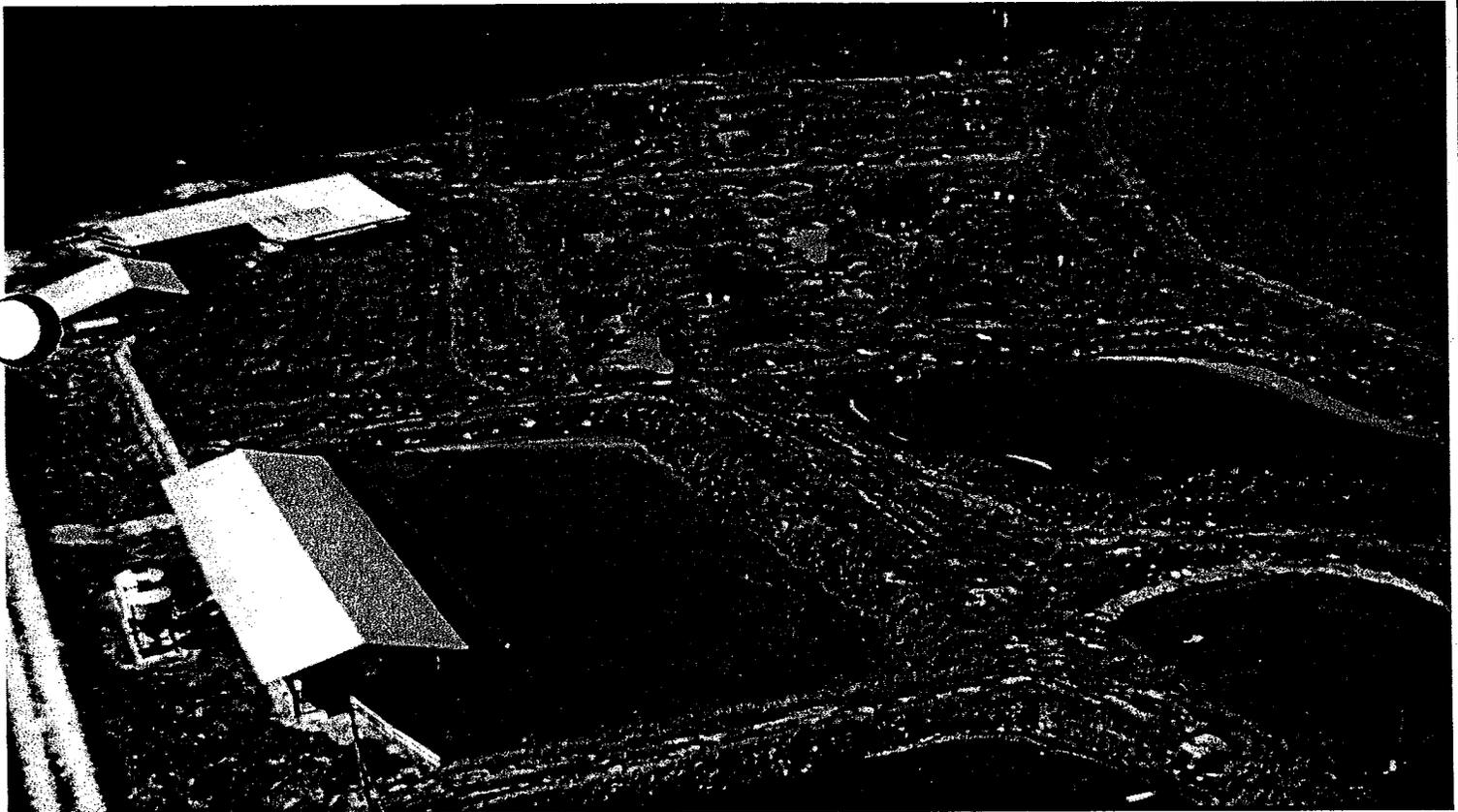


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Comprehensive Nutrient Management Planning Technical Guidance, New Mexico

September, 2001, updated July, 2002



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**COMPREHENSIVE NUTRIENT MANAGEMENT PLANNING
TECHNICAL GUIDANCE, NEW MEXICO**

September, 2001, updated July, 2002

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COMPREHENSIVE NUTRIENT MANAGEMENT PLANNING TECHNICAL GUIDANCE, NEW MEXICO

July, 2002

1.0 INTRODUCTION

Comprehensive Nutrient Management Planning (CNMP) results in implementation of resource management systems which are in concert with the interagency mission of the conservation partnership ("Working with people and partners in New Mexico to care for the land") and watershed objectives. Systems will be developed to manage agricultural by-products from the point of origin to the ultimate place and purpose of use with consideration given to on-site and off-site soil, water, air, plant, animal and human resources effects. Landowners will be encouraged to implement these plans within the development of a resource management plan.

This document is intended for use by Natural Resources Conservation Service (NRCS) and conservation partner state and local field staffs, private consultants, landowners/operators, and others that either will be developing or assisting in the development of comprehensive nutrient management plans (CNMPs). The purpose of this document is to provide guidance for the development of CNMPs, not to establish regulatory requirements for local, tribal, state, or federal programs. This guidance is not intended as a sole source of reference for developing CNMPs. Rather, it is to be used as a tool in support of the planning process, as contained in the NRCS National Planning Procedures Handbook (NPPH) (see Appendix A). It provides a list of essential elements that need to be considered in developing a CNMP. To effectively use this guidance, the planner needs a solid understanding of manure management systems, plant nutrient management, the NRCS planning process, and the NRCS Field Office Technical Guide.

New Mexico Interagency Animal Feeding Comprehensive Nutrient Management Planning Workgroup

In response to the AFO/CAFO Strategy of the Clean Water Action Plan, the New Mexico Interagency Animal Feeding Operation Comprehensive Nutrient Management Planning Workgroup was established in January, 1999. The workgroup comprises representatives of USDA-Natural Resources Conservation Service, New Mexico Environment Department, New Mexico Department of Agriculture, New Mexico Cooperative Extension Service, New Mexico State University, U.S. Environmental Protection Agency, U.S. Geological Survey, Dairy Producers Association, New Mexico Cattle Growers Association, New Mexico Farm and Livestock Bureau, and others.

The workgroup was established to help identify and address animal organic nutrient management/crop nutrient management planning issues in New Mexico. The workgroup also is working to develop a voluntary, user-friendly planning process within state to satisfy federal, state, and local regulations.

The workgroup developed an interagency comprehensive nutrient management planning notebook, certification process, and training as well as reviewed standards and developing/adapting tools for New Mexico use. The workgroup process has included defining the role of each agency in planning and implementing animal organic nutrient management within state as well as developing one planning process that is acceptable and user-friendly to agencies and producers.

2.0 DEFINITION

A Comprehensive Nutrient Management Plan (CNMP) is a component of a conservation plan that is unique to animal feeding operations. A CNMP is a grouping of conservation practices and management activities which, when combined into a resource management system, will help to ensure that both production and natural resource conservation goals are achieved. It incorporates practices to fully utilize animal manure and other organic by-products (any organic material applied to the land as a nutrient source) as a beneficial resource. A CNMP addresses natural resource concerns dealing with agricultural by-products and their potentially adverse impacts on water quality. A CNMP is developed to assist an AFO owner/operator in meeting all applicable local, tribal, State, and Federal regulations.

CNMPs shall be planned in accordance with the procedures identified in the USDA Natural Resources Conservation Service National Planning Procedures Handbook, Amendment 2 (Appendix B), and designed, constructed, and operated in accordance with NRCS Conservation Practice Standards. The NRCS Agricultural Waste Management Field Handbook (AWMFH) and Field Office Technical Guide (FOTG) as well as the New Mexico Interagency Comprehensive Nutrient Management Planning Training Manual will serve as essential references in developing a CNMP.

General policy includes:

1. CNMPs will consider manure handling and storage, land treatment practices, nutrient management, record keeping, feed management and acceptable alternatives for use or disposal of excess nutrients produced or imported onto the production unit. CNMPs are site specific and written to address the goals and needs of the individual owner/operator in consideration of the environment, public health and water quality. The specific practices used to implement each component will vary to reflect site-specific conditions or needs of the watershed.
2. Technical assistance may be provided in one or more of the following: planning, design, or implementation of a comprehensive nutrient management plan, based on landowner needs and consistent with watershed objectives. NRCS will provide technical assistance, as personnel are available.
3. No design or implementation assistance will be provided until a complete comprehensive nutrient management plan has been developed although preliminary survey and soil investigations will be provided as needed for preparation of the CNMP.

4. For each comprehensive nutrient management plan, a complete inventory and evaluation will be conducted in accordance with the National Planning Procedures Handbook and Conservation Plan.
5. CNMPs will help to ensure that an adequate land base exists for utilization of generated and imported nutrients or provide alternative methods to minimize environmental risk, where insufficient land base exists.
6. On land receiving manure applications, soil erosion and concentrated flow control measures will be included as needed.

3.0 OBJECTIVE

The objective of a CNMP is to provide AFO owners/operators with a plan to manage manure and organic by-products by combining conservation practices and management activities into a conservation system that, when implemented, will protect or improve water quality. . Ultimately, it is the landowner's/operator's responsibility as the decision-maker to select the system of conservation practices and management activities that best meet his/her production and environmental needs from the alternatives available.

The conservation practices and management activities in a CNMP for which NRCS maintains technical standards are to meet these standards. Elements of a CNMP for which NRCS does not currently maintain standards are to meet criteria established by Land Grant Universities, Industry or appropriate others

4.0 CNMP ELEMENTS

General Criteria for CNMP Development:

CNMPs will, as a minimum, meet the following criteria:

- Provide documentation that addresses the items outlined in Section 600.6, Exhibit 15, Comprehensive Nutrient Management Plan-Format and Content.
- Document the AFO owners/operators consideration of the six CNMP elements. It is recognized that a CNMP may not contain all six elements; however, they need to be considered by the AFO owner/operator during development of the CNMP, and the owner's/operator's decisions regarding each must be documented. These elements are as follows:
 - Manure and Wastewater Handling and Storage
 - Land Treatment Practices
 - Nutrient Management
 - Feed Management
 - Other Utilization Activities
- Meet requirements of the NRCS Field Office Technical Guide (FOTG) conservation practice standards for all practices contained in the CNMP.

- Meet all applicable local, Tribal, State, and Federal regulations. When applicable, ensure that USEPA-NPDES or State permit requirements (i.e., minimum standards and special conditions) are addressed.

Element Criteria for CNMP Development:

(a) Manure and Wastewater Handling and Storage

This element addresses the components and activities associated with the production facility, feedlot, manure and wastewater storage and treatment structures and areas, and any areas used to facilitate transfer of manure and wastewater. In most situations, addressing this element will require a combination of conservation practices and management activities.

1. Criteria for Manure and Wastewater Handling and Storage

- Provide for adequate collection, storage, and/or treatment of manure and organic by-products that allows land application in accordance with NRCS Nutrient Management Policy and the conservation practice standard for Nutrient Management (Code 590). Collection, storage, treatment, and/or transfer practices shall meet the minimum requirements as addressed in the following NRCS conservation practice standards contained in Section IV of the NRCS FOTG, as appropriate:
 - Waste Storage Facility (Code 313)
 - Waste Treatment Lagoon (Code 359)
 - Manure Transfer (Code 634)
- Comply with existing federal, Tribal, State, and local regulations, associated with the following activities:
 - Disposal of dead animals.
 - Disposal of animal medical wastes.
 - Disposal of spoiled feed or other contaminants that may be regulated by other than an NPDES or State concentrated animal feeding operation (CAFO) permitting program.
- Document the following:
 - Types of animals and phases of production that exist at the facility.
 - Numbers of each animal type, average weight, and period of confinement for each phase of production.
 - Total estimated manure and wastewater volumes produced at facility. where historical manure and wastewater production volumes are not documented, an estimate may be made using the procedures and tabular

data provided in the NRCS Agricultural Waste Management Field Handbook (AWMFH), Chapter 4, "Waste Characteristics".

- Manure storage type, volume, and length of storage. (For more information on storage and treatment systems, how they function, their limitations, and design guidance, see NRCS AWMFH, Chapter 9, "Animal Waste Management Systems", and Chapter 10, "Component Design".)
- Existing transfer equipment, system, and procedures.
- Operation and maintenance activities that address the collection, storage, treatment, and transfer of manure and wastewater, including associated equipment, facilities, and structures
- Nutrient content and volume of manure, if transferred to others.
- An emergency action plan to address spills and catastrophic events.

2. Considerations for Manure and Wastewater Handling and Storage

Additional considerations associated with CNMP development and implementation should be addressed. However, NRCS does not have specific technical criteria for these considerations that are required for CNMPs. These considerations are:

Air Quality

During the CNMP development process, AFO operators/owners need to consider the impact of selected conservation practices on air quality. Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions, and odors. Poor air quality may affect the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load. Proper siting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Conservation buffers placed with regard to prevailing wind patterns can intercept movement of some airborne pollutants. Enclosing a waste storage or treatment facility can reduce gaseous emissions from AFOs in areas with residential development.

Pathogens

During the CNMP development process, AFO operators/owners need to consider the impact of selected conservation practices on pathogen control. Pathogenic organisms occur naturally in animal wastes. Exposure to some pathogens can cause illness to humans and animals, especially for immune-deficient populations. Many of the same conservation practices used to prevent nutrient movement from animal operations, such as leaching, runoff, and erosion control are likely to minimize the movement of pathogens. Certain waste treatment systems can further reduce the pathogen content of manure.

(b) Land Treatment Practices

This element addresses evaluation and implementation of appropriate conservation practices on sites proposed for land application of manure and organic by-products from an AFO. On fields where manure and organic by-products are applied as beneficial nutrients, it is essential that runoff and soil erosion be minimized to allow for plant uptake of these nutrients. An understanding of the present land use of these fields is essential in developing a conservation system to address runoff and soil erosion adequately.

1. Criteria for Land Treatment Practices

- An on-site visit is required to identify existing and potential natural resource concerns, problems, and opportunities for the conservation management unit (CMU).
- Identification of the potential for nitrogen and phosphorus losses from the site.
- At a minimum, the conservation system developed for this element will address the NRCS Quality Criteria for water quality, found in Section III of the FOTG. Soil erosion is addressed to reduce the transport of manure nutrients within or off of a field to which manure is applied. Typical NRCS conservation practices, and their corresponding NRCS conservation practice standard code number, used as part of a conservation system to minimize runoff and soil erosion are:
 - Conservation Crop Rotation (Code 328)
 - Residue Management, No Till and Strip Till (Code 329A)
 - Residue Management, Mulch Till (Code 329B)
 - Cover Crop (Code 340)
 - Residue Management, Seasonal (Code 344)
 - Diversion (Code 362)
 - Windbreak and/or Shelterbelt Establishment (Code 380)
 - Riparian Forest Buffer (Code 390)
 - Filter Strip (Code 393)
 - Grassed Waterway (Code 412)
 - Irrigation Land Leveling (Code 464)
 - Irrigation Water Management (Code 449)
 - Cross Wind Ridges (Code 589a)
 - Cross Wind Stripcropping (Code 589b)
 - Cross Wind Trap Strips (Code 589c)
- Compliance with existing, federal, Tribal, State and Local regulations or ordinances associated with soil erosion and runoff.
- Document the following:
 - Land application areas on aerial photos.
 - Individual field maps with setbacks, buffers, waterways, and other planned conservation practices marked.

- Soils information such as features, limitations, and capability for each field. Conservation practice design information.
- Identification of sensitive areas such as sinkholes, streams, springs, lakes, shallow water tables, ponds, wells, gullies, and drinking water sources.
- Other site information features of significance, such as property boundaries.
- Identification of operation and maintenance (O&M) practices and/or activities.

Notes:

- A documented record will be kept of the site assessment for each CMU. As part of the CNMP, the record will need to address problems or concerns identified during the on-site assessment of the land application unit.
- The operation and maintenance plan will need to address all structural and operational components in the CNMP.
- This planning and assessment process integrates economic, social, and environmental considerations into a system that meets the needs of the natural resources and assists the landowner/operator in meeting Federal, State, Tribal and local requirements. Each conservation practice posed as an alternative to address identified resource concerns will be evaluated according to potential impacts on resources, including soil, water, air, plant, and animal.
- Technical requirements will be in accordance with the NRCS National Planning Procedures Handbook (NPPH) and the FOTG (see Appendix B) as well as state and federal regulation references.

(c) Nutrient Management

This element addresses the requirements for land application of all nutrients and organic by-products that must be evaluated and documented for each CMU .

Land application of manure and organic by-products is the most common use of manure because of the nutrient and organic matter content of the material. Land application procedures must be planned and implemented in a way that minimizes potential adverse impacts to the environment and public health.

1. Criteria for Nutrient Management

- Meet the NRCS Nutrient Management Policy as contained in the NRCS GM 190, Part 402, May 1999, and clarified by the National Instruction, Nutrient Management -Policy Implementation, Title 190, Part 302, October 2000.
- Meet criteria in NRCS conservation practice standard Nutrient Management (Code 590) and, as appropriate, Irrigation Water Management (Code 449).

- Develop a nutrient budget for nitrogen, phosphorus, and potassium that includes all potential sources of nutrients.
- Document the following:
 - Planned crop types, cropping sequence, and realistic yield targets.
 - Current soil test results for nitrogen, phosphorus, potassium, heavy metals, and sodic condition.
 - Manure and organic by-product source testing results.
 - Form, source, amount, timing, and method of application of nutrients, by field.

2. Considerations for Nutrient Management

- Additional considerations associated with CNMP development and implementation should be addressed. However, NRCS does not have specific required technical criteria for these considerations for CNMPs. These considerations are:

Air Quality

AFO operators/owners should consider the impact of selected conservation practices on air quality during the CNMP development process. Air quality on land application sites may be impaired by excessive dust, gaseous emissions, and odors. Poor air quality may affect the health of workers, as well as animals and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load. Soil incorporation of manure and organic by-products on land application sites can reduce gaseous emissions.

Pathogens

AFO operators/owners should consider the impact of selected conservation practices on pathogen control during the CNMP development process. Pathogenic organisms occur naturally in animal waste. Exposure to some pathogens can cause illness in humans and animals, especially for immune-deficient populations. Many of the same conservation practices used to prevent nutrient movement from animal operations, such as leaching, runoff and erosion control, are likely to prevent the movement of pathogens.

Salt and Heavy Metals

Build up of salt and heavy metals (i.e., arsenic, selenium, cadmium, molybdenum, zinc) in soils can create a potential for human and animal health problems and threaten soil productivity and crop marketability. Federal and State regulations do not address the heavy metal content associated with agricultural by-products. In developing a CNMP, the build-up of salt and heavy metals should be tracked through soil testing. Additional guidance on salt and heavy metal contamination from manure is available in the following:

- NRCS Agricultural Waste Management Field Handbook, Sections 651.1103 and 651.0604(b) deal with the salt content of agricultural waste.
- NRCS Agricultural Waste Management Field Handbook, Sections 651.0603(g) and 651.0605(a and b) deal with the heavy metal content of agricultural waste.
- USEPA Title 40 Part 503 -Standards for the Use or Disposal of Sewage Sludge. Section 503.13 contains pollutant limits for biosolids heavy metal content and cumulative loading rates, but does not address resident levels of metals in the soil.

(d) Record Keeping

It is important for AFO owners/operators to document and demonstrate implementation activities associated with their CNMPs. Documentation of implementation and management activities associated with a CNMP provides valuable benchmark information that the AFO owner/operator can use to adjust his/her CNMP to meet production and natural resource conservation objectives. It is the responsibility of AFO owners and/or operators to maintain records that document the implementation and management of CNMPs. Records should be maintained on-site for a period of 5 years or longer.

Documentation will include:

- Current soil test results, in accordance with Nutrient Management Code 590.
- Application records for each manure or commercial fertilizer application event, including:
 - Containment source or type and form of commercial fertilizer.
 - Field(s) where manure or organic by-products are applied.
 - Amount applied per acre.
 - Date of application.
 - Application method and equipment used.
- Crops planted and planting and/or harvesting dates, by field
- Manure, lagoon sampling results
- Records that address manure and wastewater storage containment structures:
 - Dates of emptying, level before emptying, and level after emptying, and discharge or overflow events, including level before and after event.
- Transfer of manure off-site or to third parties:
 - Manure nutrient content (N, P, K)
 - Amount of manure transferred.
 - Date of transfer.
 - Recipient of manure (name, address, phone)
- Available maps, sketches and designs resulting from the planning process that will be useful to the producer in implementing the plan
- Environmental evaluations
- Monitoring well results

- Activities associated with emergency spill response plan.
- Documentation of soils/geologic investigation.
- As-built plans available onsite.
- Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies:
 - Dates of review.
 - Name of reviewer and purpose of the review.
 - Recommendations or follow-up requirements resulting from the review.
 - Actions taken as a result of the review.
- Records of maintenance performed associated with operation and maintenance plans.
- Changes made in CNMP.

(e) Feed Management

Feed management activities may be used to reduce the nutrient content of manure that may result in less land being required to effectively utilize the manure. Feed management activities may be dealt with as a planning consideration and not as a requirement that addresses specific criteria; however, AFO owners/operators are encouraged to incorporate feed management as part of their nutrient management strategy. Specific information and recommendations should be obtained from the Cooperative State Research, Education, and Extension Service; Land Grant Universities; industry; the Agricultural Research Service; or professional societies such as the Federation of Animal Science Societies (FASS) or American Registry of Professional Animal (ARPAS); or other technically qualified entities.

An example of the effective use of feed management is presented as follows:

If a dairy cow is fed 0.04 percent above recommended levels of dietary phosphorus, she will excrete an additional six pounds of phosphorus annually. For a herd of 500 cows, this is an additional 3,000 pounds of phosphorus per year. In a single cropping system, corn silage is about 0.2 percent phosphorus on a dry matter basis. For a field yielding 30 tons of silage per acre, at 30 percent dry matter, this is 36 pounds of phosphorus in the crop. If an additional 3,000 pounds of phosphorus are recovered in manure it takes considerably more land for application if manure is applied on a phosphorus basis. " Dr. Deanne Meyer, Livestock Waste Management Specialist, Cooperative Extension, University of California.

Specific feed management activities to address nutrient reduction in manure may include phase feeding, amino acid supplemented low crude protein diets, or the use of low phytin phosphorus grain and enzymes, such as phytase or other additives.

Feed management can be an effective approach to addressing excess nutrient production and should be encouraged; however, it also is recognized that feed management may not be a viable or acceptable alternative for all AFOs. A professional animal nutritionist

should be consulted before making any recommendations associated with feed ration adjustment.

(f) Other Utilization Activities

Using environmentally safe alternatives to land application of manure and organic by-products could be an integral part of the overall CNMP. Alternative uses for animal manure are needed in areas where nutrient supply exceeds the nutrient requirements of crops, and/or where land application would cause significant environmental risk. Manure use for energy production, including burning, methane generation, and conversion to other fuels, is being investigated and even commercially tested as a viable source of energy. Methods to reduce the weight, volume, or form of manure, such as composting or pelletizing, can reduce transportation cost, and create a more valuable product. Manure can be mixed or co-composted with industrial or municipal by-products to produce value-added material for specialized uses. Transportation options are needed to move manure from areas of over supply to areas with nutrient deficiencies (i.e., manure brokering).

More efficient and cost-effective methods are needed for manure handling, treatment, and storage. Areas in need of targeting include:

- 1.Improved systems for solids removal from liquid manure
- 2.Improved manure handling, storage, and treatment methods to reduce ammonia volatilization.
- 3.Treatment systems that transform and/or capture nutrients, trace elements, and pharmaceutically active compounds from manure.
- 4.Improved composting and other manure stabilization techniques.
- 5.Treatment systems to remediate or replace anaerobic lagoons.

As many of these alternatives to conventional manure management activities have not been fully developed or refined, industry standards do not always exist that provide for their consistent implementation. Except for the NRCS conservation practice standard Composting Facility (Code 317), NRCS does not have conservation practice standards that address these other utilization options.

This element of a CNMP should be presented as a consideration for the AFO owner and/or operator in his/her decision-making process. No specific criteria need to be addressed unless an alternative utilization option is decided upon by the AFO owner/operator. When an AFO owner and/or operator implements this element, applicable industry standards and all federal, Tribal, State, and local regulations must be met.

5.0 CERTIFICATION

The development of a CNMP involves two types of skilled individuals. The "Conservation Planner-CNMP" is an individual who has been certified by NRCS with the ability to develop the overall CNMP. The "Conservation Planner-CNMP" pulls together all of the elements of a CNMP. The "Certified Specialist-CNMP" is an individual who has the skill to develop one or more of the elements of a CNMP as certified by NRCS.

Any CNMP that is developed by an NRCS or partner employee will have the plan approved by a certified Conservation Planner. The development of a CNMP by third party vendors or other approved sources does not imply concurrence or plan approval by NRCS.

CERTIFIED CNMP SPECIALIST CERTIFICATION REQUIREMENTS:

(as stated in NRCS General Manual 180-CPA, NM, 4/01)

Certified CNMP specialists are individuals who have demonstrated a competency in developing an element of a CNMP. Listed below are the general requirements and those specific to each element of a CNMP.

General Requirements:

1. An awareness of the NRCS conservation planning policy process comparable to the information contained in the NRCS "Conservation Planning Modules 1-5".
2. An awareness of agricultural waste management systems equivalent to the information contained in NRCS' Agricultural Waste Management Systems: A Primer Course.
3. Demonstrated ability to use applicable sections of the local Field Office Technical Guide.
4. Knowledge of criteria associated with the various elements of a CNMP as contained in the "Comprehensive Nutrient Management Policy and Guidance Document, New Mexico".
5. Meet applicable local, state and federal regulations that impact the elements of the CNMP.

These general requirements and related competencies are incorporated as part of the Job Approval process for New Mexico. Competencies for third party vendors will be developed when needed.

Requirements Specific to Elements of a CNMP:

1. **Manure Production, Collection, Storage, Treatment and Transfer** – This element addresses the components and activities associated with the production facility, feedlot, manure and wastewater storage and treatment structures and areas, and any

areas or mechanisms used to facilitate transfer of manure and wastewater. The following are required:

- a. Knowledge adequate to design and implement conservation practices typically used to address this element of a CNMP. (See Appendix D for List of conservation practice standards most commonly used when developing a CNMP).
- b. Working knowledge of the information contained in the NRCS Agricultural Waste Management Systems Level 2 Course or its equivalent.

2. Land Treatment Practices – This element addresses the land on which manure and wastewater from an animal feeding operation will be applied. The following knowledge and skills are required:

- a. Skill in applying appropriate erosion prediction technology.
- b. Skill in using site vulnerability assessment tools, including P Index, Leaching Index.
- c. Ability to plan and implement conservation practices common to the geographic area.

3. Nutrient Management – This element addresses the requirements for land application of all nutrients and organic by-products (e.g. animal manure, wastewater, commercial fertilizers, crop residues, legume credits, irrigation water, etc.) that must be evaluated and documented for each Conservation Management Unit. The following knowledge, skills, and abilities are required:

- a. Working knowledge of the information contained in the NRCS Introduction to Water Quality Course, or equivalent.
- b. Skill in using nutrient risk assessment tools, including P Index and Leaching Index.
- c. Working knowledge of the information in the NRCS Nutrient Management Course or its equivalent.
- d. Skill in developing nutrient management plans in compliance with the NRCS Nutrient Management (590) and, as appropriate, Irrigation Water Management (449) conservation practice standard(s).

CERTIFIED CNMP PLANNER DRAFT CERTIFICATION REQUIREMENTS:

(as stated in NRCS General Manual 180-CPA, NM, 4/01)

For certified Conservation Planner – CNMP, the candidate must take the New Mexico CNMP Training Workshop or obtain a waiver from the NRCS State Resource Conservationist. The candidate must also take the NEDS Conservation Planning Modules 1-10 and Introduction to Water Quality Courses and submit a CNMP for review to the State Resource Conservationist. Recertification will consist of obtaining a

minimum of one week of training in a three-year period for the type of certification approved and submitting a CNMP to the State Resource Conservationist for approval in the third year.

These specific requirements and related competencies are incorporated as part of the Job Approval process in New Mexico. Specific requirements and competencies for third party vendors will be developed when needed.

See Appendix F for specific CNMP certification requirements and training courses.

APPENDIX A

COMPREHENSIVE NUTRIENT MANAGEMENT PLANNING PROCESS

Introduction

The CNMP planning process is based on the NRCS, three-phase, nine-step planning process. This is how the three phases and nine steps look from a linear perspective:

Phase I - Collection and Analysis (Understanding the Problems and Opportunities)

1. Identify Problems
2. Determine Objectives
3. Inventory Resources
4. Analyze Resource Data

Phase II - Decision Support (Understanding the Solutions)

5. Formulate Alternatives
6. Evaluate Alternatives
7. Make Decisions

Phase III - Application and Evaluation (Understanding the Results)

8. Implement the Plan
9. Evaluate the Plan

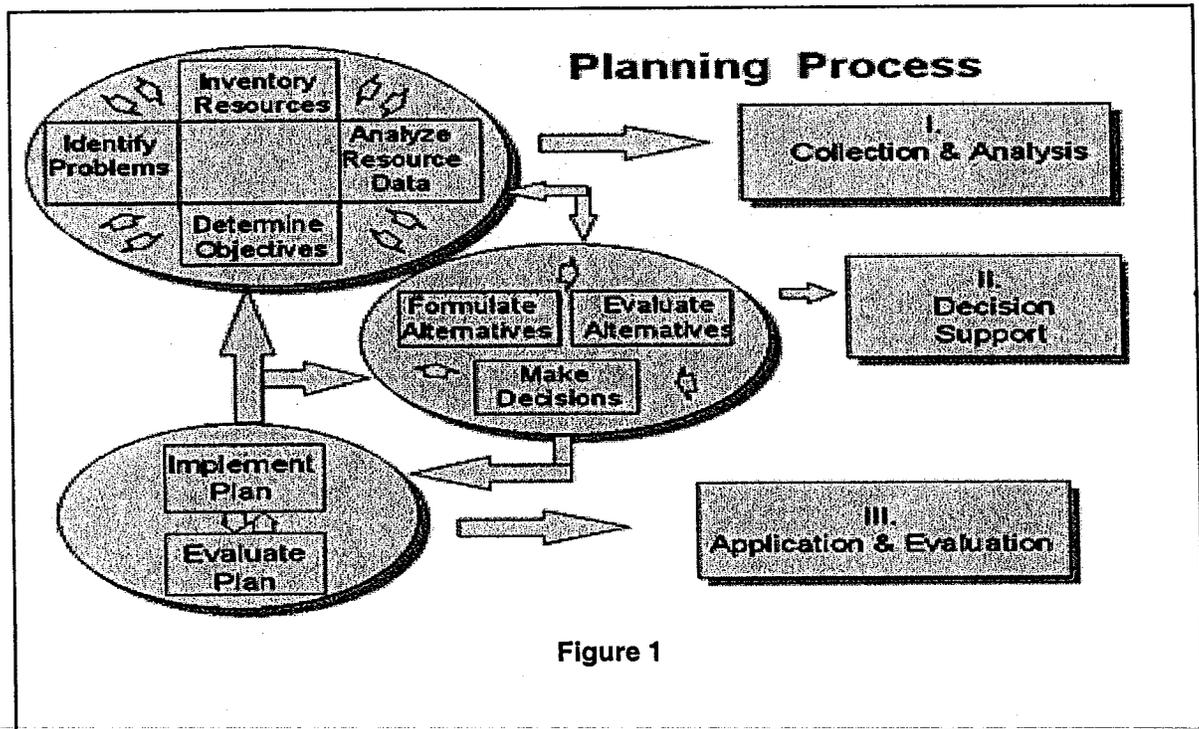


Figure 1

The planning process is straight forward, but not necessarily linear (See Figure 1). It is a cycling process – iterative - there is a need to cycle back. All three phases and all nine steps are vital for successful conservation planning.

- The planning process may start with any of the first three planning steps or planning step nine.
- There may be a need to cycle back to step three (inventory resources), while working on step four (analyze resource data), if more inventory information is needed.
- Step one (identify problems) and step two (determine objectives) will not be finalized until step four (analyze resource data) is completed. The analysis in step four will, at the very least, require a brief review of problem identification and objective determination to make sure they are suitable.
- There also may be a need for the landowner/operator to revise his/her objectives as alternatives are formulated and evaluated.
- Once the plan is developed, there may be a need to go back through the entire planning process and revise the plan, if that becomes necessary, as it is being implemented and evaluated. A revision may be necessary because of a change in objectives, size of the unit, livestock numbers, economics, weather conditions, etc.
- Based on the results of implementation, there also may be a need to look at additional alternatives if the results of plan implementation are not solving the identified problems or meeting the landowner's/operator's objectives.

APPENDIX B

TECHNICAL REFERENCES, HANDBOOKS, AND POLICY DIRECTIVES

Technical References and Handbooks

The Natural Resource Conservation Service has numerous technical references and handbooks that it uses to assist in the development of conservation plans and its various components. Listed below are those technical references and handbooks generally associated with the development of comprehensive nutrient management plans.

United States Department of Agriculture, Natural Resource Conservation Service (NRCS), National Engineering Handbook, Part 651, "**Agricultural Waste Management Field Handbook.**" This handbook is available on the NRCS website at http://www.ncg.nrcs.usda.gov/tech_ref.html or a paper copy of this publication can be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161, telephone: 1-800-533-6847. Order NTI Publications Numbers: PB230819 and PB 97167753.

United States Department of Agriculture, Natural Resource Conservation Service, "**National Agronomy Manual.**" The National Agronomy Manual establishes policy for agronomy activities and provides technical procedures for uniform implementation of agronomy tools and applications. This manual is presently under revision and is scheduled for release in 2001. The draft version is available on the USDA server in Ft. Worth, Texas at <ftp://ftp.ftw.nrcs.usda.gov/pub/NAM/>.

United States Department of Agriculture, Natural Resource Conservation Service, "**National Planning Procedures Handbook (NPPH).**" The purpose of this handbook is to provide guidance on the planning process the Natural Resources Conservation Service (NRCS) uses to develop, implement and evaluate conservation plans for individuals, and areawide conservation plans or assessments for groups. This handbook is available on the NRCS website at <http://policy.nrcs.usda.gov/scripts/lpsiis.dll/EDS/RTFList.html>, or from the NRCS Conservation Operations Division, Natural Resources Conservation Service, 12th and Independence SW, Washington, D.C. 20013.

United States Department of Agriculture, Natural Resource Conservation Service, "**Conservation Planning Course**", "**Introduction to Water Quality**", "**Nutrient and Pest Management Considerations in Conservation Planning**", "**Agricultural Waste Management Systems – A Primer**", and "**Agricultural Waste Management Systems – Level 2**". These courses are available on the NRCS website at http://www.nedc.nrcs.usda.gov/courses/course_listing.htm.

United States Department of Agriculture, Natural Resource Conservation Service, "**Agronomy Technical Notes.**" These notes are available on the NRCS website at http://www.ncg.nrcs.usda.gov/tech_notes.html.

United States Department of Agriculture, Natural Resource Conservation Service,
"Soil Quality Information Sheets." These sheets are available on the NRCS website at
http://www.nrcs.usda.gov/tech_notes.html.

United States Department of Agriculture, Natural Resource Conservation Service,
"National Range and Pasture Handbook." This handbook is available on the NRCS
website at http://www.nrcs.usda.gov/tech_ref.html.

Hard copies of available publications can be purchased from:

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA. 22161

Telephone: 1-800-553-6847

Policy Directives

NRCS policy is contained in Natural Resources Conservation Service, "General Manual." The index for the entire manual can be found at NRCS website <http://policy.nrcs.usda.gov/national/gm/index.htm>. Listed below are those policy directives, contained in the **General Manual**, generally associated with the development of comprehensive nutrient management plans.

Natural Resources Conservation Service, "General Manual", Title 450, Technology, Part 401, **Technical Guides**. This part of the General Manual is available at the NRCS website at <http://policy.nrcs.usda.gov/national/gm/title450/part401/index.htm>.

Natural Resources Conservation Service, "General Manual", Title 190, Ecological Sciences, Part 402, **Nutrient Management**. This part of the General Manual is available at the NRCS website at <http://www.nhq.nrcs.usda.gov/BCS/nutri/gm-190.html>.

APPENDIX C:

SUGGESTED FORMAT OF COMPREHENSIVE NUTRIENT MANAGEMENT PLAN

The conservation plan is developed by the landowner/operator for his/her use to record decisions for natural resource protection, conservation, and enhancement.

Decisions and resource information needed during implementation and maintenance of the plan are recorded. The plan narrative and supporting documents provide guidance for implementation and may serve as a basis for compliance with state and federal regulations and/or program funding through federal, state, or local financial support initiatives.

A comprehensive nutrient management plan (CNMP) is to include all land units, on which manure and organic by-products will be generated, handled, or applied, and that the landowner/operator either owns or has decision making authority over.

The following guidance helps to maintain quality and provide appropriate documentation of a plan. The list shows the suggested items to be given to the AFO owner/operator. However, the plan content should be tailored to meet the AFO owner's/operator's needs. The plan document provided to the producer should be a quality document containing meaningful information to the producer.

The CNMP should include the following sections:

- A. Facility Information
- B. Safety and Emergency Action Plan
- C. Objectives and Resource Concerns
- D. Inventory, Analysis and Alternatives
- E. Plan Summary of Decisions
- F. Job Sheets and Specifications
- G. Operation and Maintenance
- H. Recordkeeping
- I. Permits

Greater detail for section content is included:

- A. Facility Information
 - Name, address, and phone number(s) of the AFO
 - Name of the owner and operator
 - Legal description of AFO
 - Hydrologic unit code
 - AU of the facility

- Total acres available for nutrient application owned or leased by the facility
- Date the CNMP was completed
- Name and Signatures of the Client, Certified Planner – CNMP, Certified Specialists – Manure and Wastewater Handling and Storage, Land Treatment Practices, Nutrient Management.

B. Safety and Emergency Action Plan

- Phone numbers for fire, ambulance, law enforcement, spill recovery, spill reporting, farm personnel
- Recovery equipment - what and where
- Action Plan for fire, personal injury, spills from containment structure, spills during pumping, spills during transport

C. Objectives and Resource Concerns

- Determine and state future goals and objectives of producer; an increase in herd size or the addition of a solid/liquid separator will change the nutrient balance on the facility. If future goals change the balance of the nutrient budgeting within the next five years, complete the comprehensive nutrient management plan for present and future conditions.
- State and address resource concerns on facility and land application sites.
- Consider runoff situation on facility; state final destination of drain ditches and canals, even if runoff from irrigation or storm events does not enter these waterways.
- Include 8-digit hydrologic unit code and stream segment the facility is located by; if stream section is water quality limited (TMDL segment), state the water bodies pollutants of concern.
- All environmental sensitive issues and concerns must be addressed in this section (i.e. surface water, bedrock, rock outcrops, wetlands)

D. Inventory, Analysis and Alternatives

1. Conservation Plan Map

- Milk barn, holding tank, feed storage
- Livestock housing and corrals
- Waste structures, lagoon(s), separator(s), solid storage, ditches, buried or surface pipelines, runoff containment, corral slopes, berms
- Residences
- Property lines, if appropriate; boundary lines of planning unit, field boundaries, land use and acres for each land unit, appropriate map symbols and legend
- Wells and/or well heads
- Monitoring wells
- Surface waters, surface/subsurface drains (direction of flow)
- Title block showing: "Conservation Plan Map", "Prepared with assistance from ___Name___", Name of the conservation district, county and state, map scale, date prepared, North arrow
- Include a larger scale map showing a 1-mile radius surrounding facility.

2. NM CNMP Inventory Sheet, or equivalent to include:

- a. Name and location of facility
- b. Production information, including number and species of animals, average weight, number of days in system, phases of production, manure volumes; consistency, location, and timing of the manure produced. The production estimates should include future expansion.
- c. Roof and/or Runoff Management
- d. Management of Dead Animals and Veterinary Wastes
- e. Manure Collection, Storage, Treatment, and Transfer
 - Collection - Identify method of collection, location of the collection points, scheduling of the collection, labor requirements, necessary equipment or structural facilities, and impact that collection has on the consistency of the waste. Report information on maintenance and cleaning of the milking parlor, including cow preparation for dairies.
 - Storage - The storage period should be determined by the utilization schedule; the waste management system should identify the storage period; the required storage volume; the type, estimated size, and location of the storage facility; and the impact of the storage on the consistency of the waste.
 - Treatment – include an analysis of the characteristics of the waste before treatment; a determination of the desired characteristics of the waste following treatment; and the selection of the type, estimated size, location.
 - Transfer – include an analysis of the consistency of the waste to be moved, method of transportation, distance between points, frequency and scheduling, and necessary equipment.
- f. Manure Utilization – Describe how manure is and will be used, which may include as a source of energy, bedding, animal feed, mulch, organic matter, or plant nutrients.
 - (1) Land Application
 - A complete analysis of utilization through land application includes designing the distribution system and selecting necessary equipment.
 - A nutrient management plan is to be developed to determine application rates and volumes; selecting the fields; scheduling applications; and sampling manure, soil, water, and plants.
 - Individual field maps with marked setbacks, buffers, waterways
 - A soil map with appropriate interpretations, such as land capability groupings, woodland suitability groups, pasture and hayland suitability groups, and other interpretive information regarding suitability for specific land uses.
 - Site evaluation
 - Crop rotation
 - Crops and yields
 - Nutrient uptake
 - Expected seasonal application rate and time
 - Estimated land area requirement

- Nutrient utilization worksheet
- Manure valuation summary
- Irrigation system – describe how cropland is irrigated, including liquid waste application. Set times, frequency of irrigation, available water holding capacity and crop management allowable depletion should be covered. Describe any changes to the irrigation system that may be necessary to address resource concerns.
- Grazing management

(2) Other Utilization of Manure

In addition to land application, explore additional ways that manure is being or could be utilized, including composting, methane generation, feed utilization.

g. Feeding information

- Describe any measures that are or will be used to alter manure nutrient content through feed management such as phytase feeding, milk urea nitrogen testing.

h. Summary of Recommendations for Alternative Practices

E. Plan Summary of Decisions

- General
- System Description
- Decisionmaker's Responsibilities
- Recorded Decisions and Component Installation Schedule – include the appropriate land unit label, official practice name, brief description of the practice, and schedule of practice application in the proper sequence by calendar year
- Production Function Requirements
- Collection Function Requirements
- Treatment Function Requirements
- Storage Function Requirements
- Transfer Function Requirements
- Utilization Function Requirements
- Contingency Plan
- Public Protection
- Closure Plan
- Decisionmaker acknowledgement

F. Jobsheets and Specifications

- Available job sheets and specifications applicable to the producer's specific planned practices.
- Worksheets developed with producer, such as resource impact summaries, forage inventories, erosion estimates, and cost estimates.

G. Operation and Maintenance

1. Reviews and Plan Modifications

- Dates of Review, including person performing the review and recommendations that resulted from the review
 - Suggested modifications
 - A revision may be necessary because of a change in objectives, size of the unit, livestock numbers, economics, weather conditions, etc.
 - Based on the results of implementation, there also may be a need to look at additional alternatives if the results of plan implementation are not solving the identified problems or meeting the landowner's/operator's objectives.
2. Operation and Maintenance Procedures
- List of maintenance items to be done periodically to maintain system.

H. Recordkeeping

- If a producer is to safely manage and assess his/her CNMP, it is critical he/she maintain a record of activities and the functionality of the system. A recordkeeping plan should be implemented that addresses key elements of the CNMP to aid in the proper application and provide for assessment documentation.
- Where the CNMP is part of a permitting or other regulatory program, it is the responsibility of the producer to maintain any required documentation, including plans and implementation records, and make them available to the regulatory organization, if required.
 - Current soil test results, in accordance with Nutrient Management Code 590.
 - Application records for each manure or commercial fertilizer application event, including:
 - Containment source or type and form of commercial fertilizer.
 - Field(s) where manure or organic by-products are applied.
 - Amount applied per acre.
 - Date of application.
 - Application method and equipment used.
 - Crops planted and planting and/or harvesting dates, by field
 - Manure, lagoon sampling results
 - Records that address manure and wastewater storage containment structures:
 - Dates of emptying, level before emptying, and level after emptying, and discharge or overflow events, including level before and after event.
 - Transfer of manure off-site or to third parties:
 - Manure nutrient content (N, P, K)
 - Amount of manure transferred.
 - Date of transfer.
 - Recipient of manure (name, address, phone)
 - Available maps, sketches and designs resulting from the planning process that will be useful to the producer in implementing the plan
 - Environmental evaluations
 - Monitoring well results
 - Activities associated with emergency spill response plan.
 - Documentation of soils/geologic investigation.
 - As-built plans available onsite.

- Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies:
 - Dates of review.
 - Name of reviewer and purpose of the review.
 - Recommendations or follow-up requirements resulting from the review.
 - Actions taken as a result of the review.
- Records of maintenance performed associated with operation and maintenance plans.
- Changes made in CNMP.

I. Permits

- NPDES CAFO
- Groundwater Discharge
- Inspection records
- Operator/manager certification

APPENDIX D

CONSERVATION PRACTICE STANDARDS

Natural Resources Conservation Service (NRCS) conservation practice standards provide guidance for applying technology on the land, and set the minimum level for acceptable application of the technology.

NRCS issues national conservation practice standards in its National Handbook of Conservation Practices (NHCP). National standards for each practice are available at the NRCS website http://www.nrcs.usda.gov/nhcp_2.html. State Conservationists determine which national standards will be used in his/her state. The National and State Standards can be accessed at the NM NRCS State Office website: <http://www.nm.nrcs.usda.gov>. Click on Data and Technology, Technical References, Field Office Technical Guide, Section IV.

State Conservationists that choose to use national standards, without changes, adapt them for use in their state and issue them as state conservation practice standards. State Conservationists add the technical detail needed to effectively use the standards at the field office level. Also, State Conservationists can make their conservation practice standards more restrictive, but not less restrictive. State conservation practice standards are contained in Section IV of the Field Office Technical Guide.

Following is a partial listing of the most commonly considered conservation practice standards that may be used when developing a comprehensive nutrient management plan (CNMP):

Practice Code	Practice Name
365	Anaerobic Digester – Ambient Temperature
365	Anaerobic Digester – Controlled Temperature
370	Atmospheric Resource Management
360	Closure of Waste Impoundments
317	Composting Facility
328	Conservation Crop Rotation
340	Cover Crop
589A	Cross Wind Ridges
589B	Cross Wind Strip Cropping
589C	Cross Wind Trap Strips
362	Diversion
554	Drainage Water Management
592	Feed Management
382	Fence
393	Filter Strip
410	Grade Stabilization Structure
412	Grassed Waterway
603	Herbaceous Wind Barriers
464	Irrigation Land Leveling
430	Irrigation Water Conveyance, Pipeline
449	Irrigation Water Management
634	Manure Transfer
353	Monitoring Well
590	Nutrient Management
595	Pest Management
516	Pipeline
521A	Pond Sealing or Lining – Flexible Membrane
521B	Pond Sealing or Lining -Soil Dispersant
521C	Pond Sealing or Lining – Bentonite Sealant
329A	Residue Management, No-till and Strip Till
329B	Residue Management, Mulch Till
344	Residue Management, Seasonal
391A	Riparian Forest Buffer
558	Roof Runoff Structure
587	Structure for Water Control
612	Tree and Shrub Establishment
367	Waste Facility Cover
313	Waste Storage Facility
359	Waste Treatment Lagoon

633	Waste Utilization
635	Wastewater Treatment Strip
351	Well Decommissioning
380	Windbreak/Shelterbelt Establishment

APPENDIX E

FIELD OFFICE TECHNICAL GUIDE

The Natural Resources Conservation Service (NRCS) Field Office Technical Guide (FOTG) is an essential tool for resource planning. The FOTG contains five Sections:

I. General Resource References –References, maps, cost lists, typical crop budgets, and other information for use in understanding the field office working area, or in making decisions about resource use and resource management.

II. Soil and Site Information – Soils are described and interpreted to help make decisions about land use and management. In most cases, this will be an electronic database.

III. Resource Management Systems – Guidance for developing conservation management systems. A description of the resource considerations and their acceptable levels of quality criteria are included in this section.

IV. Practice Standards and Specifications – Contains standards and specifications for conservation practices used in the field office. Conservation practice standards contain minimum quality criteria for designing and planning each practice; specifications describe requirements necessary to install a practice.

V. Conservation Effects – Contains Conservation Practices Physical Effects matrices that outline the impact of practices on various aspects of the five major resources – soil, air, water, plants, and animals.

The FOTG is a document that is being updated continually to reflect changes in technology, resource information, and agency policy. The FOTG contains information that is unique to states and local field offices within states.

NM CERTIFICATION REQUIREMENTS AND TRAINING FOR CNMP

Certification Requirements for NRCS Employee Certified Conservation Planner - CNMP and CNMP Specialist

A.1. Certified Conservation Planner - CNMP

- a. NEDC Conservation Planning - All Modules
- b. 1 CNMP
- c. Renew every 3 years (1 CNMP and 3 day training course)
- d. NM CNMP Workshop
- e. NEDC Introduction to Water Quality Course

B.1. Certified CNMP Specialist (Job Approval Authority) - General Requirements

- a. NEDC Conservation Planning Modules 1-5
- b. NEDC Introduction to Water Quality Course
- c. NEDC Agricultural Waste Management Systems Level I Course
- d. Knowledge of FOTG (NM CNMP Workshop)
- e. Understanding of the CNMP Technical Guidance (NM CNMP Workshop)
- f. Knowledge of federal, state, tribal, and local laws and regulations (NM CNMP Workshop)

B.2. Certified CNMP Specialist (Job Approval Authority) - Specific Element Requirements

(For certification in each specific element below, a specialist must also complete the general requirements)

1. Manure and Wastewater Handling and Storage (MHS)

- a. Knowledge adequate to plan conservation practices typically used to address this element, including Animal Mortality Facility (316), Closure of Waste Impoundments (360), Composting Facility (317), Covered Anaerobic Digester (365), Manure Transfer (634), Pond Sealing or Lining (521), Roof Runoff Management (558), Waste Storage Facility (313), Waste Treatment Lagoon (359), Waste Utilization (633), and Wastewater Treatment Strip (635) - (Planning Job Approval for each practice).
- b. NEDC Agricultural Waste Management Systems Level II Course.

2. Land Treatment (LT)

- a. Knowledge adequate to plan conservation practices typically used to address this element, including Conservation Crop Rotation (328), Cover Crop (340), Cross Wind Ridges (589a), Cross Wind Strip Cropping (589b), Cross Wind Trap Strips (589c), Diversion (362), Fence (382), Filter Strip (393), Grade Stabilization Structure (410), Grassed Waterway (412), Irrigation Land Leveling (464), Irrigation Water Management (449), Residue Management (329), Riparian Forest Buffer (391a), Tree and Shrub Establishment (612), and Windbreak/Shelterbelt Establishment (380) - (Planning Job Approval for each practice)
- b. Application of Approved Erosion Prediction Technology - (NM CNMP Workshop)
- c. Site Vulnerability Tools - (NM Nutrient Management Module 7 Course)

3. Nutrient Management 590 (NM)

- a. Knowledge adequate to plan and implement conservation practice 590 - (Job Approval)
- b. NEDC Nutrient Management (Modules 1-6) Course
- c. NM Nutrient Management (Module 7) Course

4. Feed Management (optional component)

- a. Knowledge of various feeding technologies and feeding techniques described in the NRCS conservation practice standard for feed management (Code 592).
- b. Ability to discuss feed management technologies and feeding techniques with producers.
- c. Acquire 15 hours of training in feed management.
- d. Submit plan component for review.

5. Recordkeeping

No NRCS practice or certification.

6. Other Utilization

No NRCS certification.

A. Certified Conservation Planner - CNMP

- a. NRCS National Employee Development Center (NEDC) Conservation Planning Modules 1-5
- b. NM CNMP Workshop plus 1 CNMP Plan (must include elements 1,2,3,5)
- c. NEDC Introduction to Water Quality Course
- d. Renew every 3 years (1 CNMP Plan)
- e. Register as Technical Service Provider (www.techreg.usda.gov)

B. 1. Certified CNMP Specialist - General Requirements

- a. NEDC Conservation Planning Modules 1-5
- b. NEDC Introduction to Water Quality Course
- c. NEDC Agricultural Waste Management Systems Level I Course
- d. Knowledge of Field Office Technical Guide (NM CNMP Workshop)
- e. Understanding of the CNMP Technical Guidance (NM CNMP Workshop).
- f. Knowledge of federal, state, tribal, and local laws and regulations (NM CNMP Workshop).

B.2. Certified CNMP Specialist - Specific Element Requirements

(For certification in each specific element below, a specialist must also complete the general requirements)

1. Manure and Wastewater Handling and Storage (MHS)

- a. Knowledge adequate to plan conservation practices typically used to address this element, including Animal Mortality Facility (316), Closure of Waste Impoundments (360), Composting Facility (317), Covered Anaerobic Digester (365), Manure Transfer (634), Pond Sealing or Lining (521), Roof Runoff Management (558), Waste Storage Facility (313), Waste Treatment Lagoon (359), Waste Utilization (633), and Wastewater Treatment Strip (635). (Plan component will be submitted for review by NRCS State Resource Conservationist).
- b. NEDC Agricultural Waste Management Systems Level II Course.
- c. Professional engineer licensed in New Mexico.

2. Land Treatment (LT)

- a. Knowledge adequate to plan conservation practices typically used to address this element, including Conservation Crop Rotation (328), Cover Crop (340), Cross Wind Ridges (589a), Cross Wind Strip Cropping (589b), Cross Wind Trap Strips (589c), Diversion (362), Fence (382), Filter Strip (393), Grade Stabilization Structure (410), Grassed Waterway (412), Irrigation Land Leveling (464), Irrigation Water Management (449), Residue Management (329), Riparian Forest Buffer (391a), Tree and Shrub Establishment (612), and Windbreak/Shelterbelt Establishment (380). (Plan submitted for review by NRCS State Resource Conservationist).
- b. Application of Approved Erosion Prediction Technology - (NM CNMP Workshop)
- c. Site Vulnerability Tools - (NM Nutrient Management Module 7 Training)
- d. Certified Crop Advisor Certification in NM

3. Nutrient Management 590 (NM)

- a. Knowledge adequate to plan and implement conservation practice 590
- b. NEDC Nutrient Management (Modules 1-6) Course
- c. NM Nutrient Management (Module 7) Course (includes submittal of plan component for review).
- d. Certified Crop Advisor Certification in NM

4. Feed Management (optional component)

- a. Knowledge of various feeding technologies and feeding techniques described in the NRCS conservation practice standard for feed management (Code 592).
- b. Ability to discuss feed management technologies and feeding techniques with producers.
- c. Acquire 15 hours of training in feed management.
- d. Submit plan component for review.

Recordkeeping and 6. Other Utilization

No NRCS certification.

Training Courses for CNMP Certification

A. NRCS National Employee Development Center (NEDC) Courses:

Course Registration:

- a) NEDC Webpage: [HTTP://WWW.NEDC.NRCS.USDA.GOV/](http://www.nedc.nrcs.usda.gov/).
click on course catalog and course listing.

- 1.) **Conservation Planning Modules 1-5** – no prerequisites. It includes a web-based exam. Please go to the following URL to access the training and exam: <http://www.nedc.nrcs.usda.gov/catalog/consplan.html>. When you complete the exam, your scores will automatically be stored in a database.
- 2.) **Introduction to Water Quality** – no prerequisites. This training program creates an awareness of NRCS Water Quality policy, and teaches principles and how to apply them in daily NRCS activities at the field, farm, and watershed scales. The course utilizes video and student workbook for the self-study delivery. A score of 80% or above on the on-line Pretest qualifies for a Certificate of Competency. Otherwise, course materials will be sent to student for completion within 3 months. The training program requires approximately 20 hours of concentrated study to complete. A score of 70% or above on the on-line Posttest qualifies for a Certificate of Completion.
- 3.) **Nutrient and Pest Management Considerations in Conservation Planning** – prerequisite is Introduction to Water Quality Course. This training course introduces NRCS' mission in the nutrient and pest management arena and how it relates to the Resource Management System (RMS) planning process. It provides the participant with a basic understanding of the science of nutrient and pest management, as well as environmental concerns associated with the use of nutrients and pest management measures, including environmental risk, and the processes that affect the fate and transport of nutrients and pesticides in the environment. The training program is divided into two tracks: Track 1 – Nutrient Management and Track 2 – Pest Management. Each track will be offered as individual components of the overall course. The course contains a video and student workbook for the self-study delivery. This portion requires approximately 40 hours of concentrated study to complete. After successful completion of the self-paced Modules 1-6, participants will attend an in-state facilitated session (Module 7) using exercises and assessment tools to reinforce and apply important concepts. Contact Mike Sporcic, NRCS, 505/761-4424, Michael.Sporcic@nm.usda.gov to register for an in-state facilitated session. The participant will prepare a nutrient and/or pest management component of an RMS plan to complete the training.
- 4.) **Agricultural Waste Management Systems – Level I** – no prerequisites. This training provides an overview of agricultural waste management systems. It covers background, safety and hazards, planning, and functions of agricultural waste management systems. The course is comprised of a self-paced booklet with an

accompanying video and requires approximately 1 hour to complete. This course may be requested by sending an e-mail with the information shown below to gspiller@ftw.nrcs.usda.gov.

- Name, Job title, Address, Telephone, email address, Supervisor's name

- 5.) Agricultural Waste Management Systems – Level 2 – Prerequisites–** Agricultural Waste Management Systems – Primer 1 and Introduction to Water Quality Courses (the Nutrient and Pest Management Considerations in Conservation Planning Course is also highly recommended). This course provides training on planning and designing agricultural waste management systems with an emphasis on systems for livestock and poultry operations. It provides guidance in developing an agricultural waste management system that manages the waste from its production through its utilization. The Agricultural Waste Management Field Handbook serves as the textbook and reference. The delivery of the training is a self-paced computer based training, packaged as a CD and a workbook. Participants will have 3 months from the day they register and complete the Pretest until they must take the Posttest. The training program requires approximately 32 hours of concentrated study to complete.
- 6.) Liner Design for Animal Waste Containment – Prerequisites –** Soil Mechanics: Modules 1, 2, 3 – Classification of Soils – Level 1; Module 4 – Volume Weight Relationships; Module 5 – Compaction. This course covers planning, investigation, design and installation of animal waste containment systems such as compacted clay liners, treated compacted soil liners, and flexible geosynthetic membrane liners. The workshop is conducted at a location for four days.

B. In-State CNMP Courses:

1.) New Mexico CNMP Workshop

Course Registration: Contact Linda Scheffe, NRCS, 505/761-4448, Linda.Scheffe@nm.nrcs.usda.gov to register for next session. This course will be held annually or as needed.

Summary: Prerequisite: NEDC Introduction to Water Quality Course and NEDC Conservation Planning Course (Modules 1-5). This interagency course covers the major components associated with the Comprehensive Nutrient Management Plan in partial fulfillment of the certification requirements for Certified Conservation Planner – CNMP and CNMP Specialist. The duration of the course is 3 days, covering policy, procedures and technical standards for planning, implementing and evaluating the CNMP component for an animal feeding operation of a Resource Management System. Upon completion of the course, participants will prepare a comprehensive nutrient management component of an RMS plan to complete the training.

APPENDIX G

NEW MEXICO NRCS OFFICES

Directory also available on NRCS homepage: <http://www.nm.nrcs.usda.gov>

Dan Abercrombie
1920 North White Sands Blvd.
Alamogordo, NM 88310
Phone: 505/437-1030
Fax: 505/437-8443

Corinne Brooks
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Albuquerque, NM 87107
Phone: 761-4684
Fax: 761-4624

Garth Grizzle
3105 W Main, Star Rt W, Box 11A
Artesia, NM 88210
Phone: 505/746-4121
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Garth Grizzle
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137
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Bob Moorhead
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Levi Sandoval
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Ernest Romero
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Wayne Sleep
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Phone: 505/542-9141
Fax: 505/542-3295

Rudy Garcia
Agricultural Service Center Bldg.
27, Courthouse Rd.
Los Lunas, NM 87301
Phone: 505/865-4642
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