

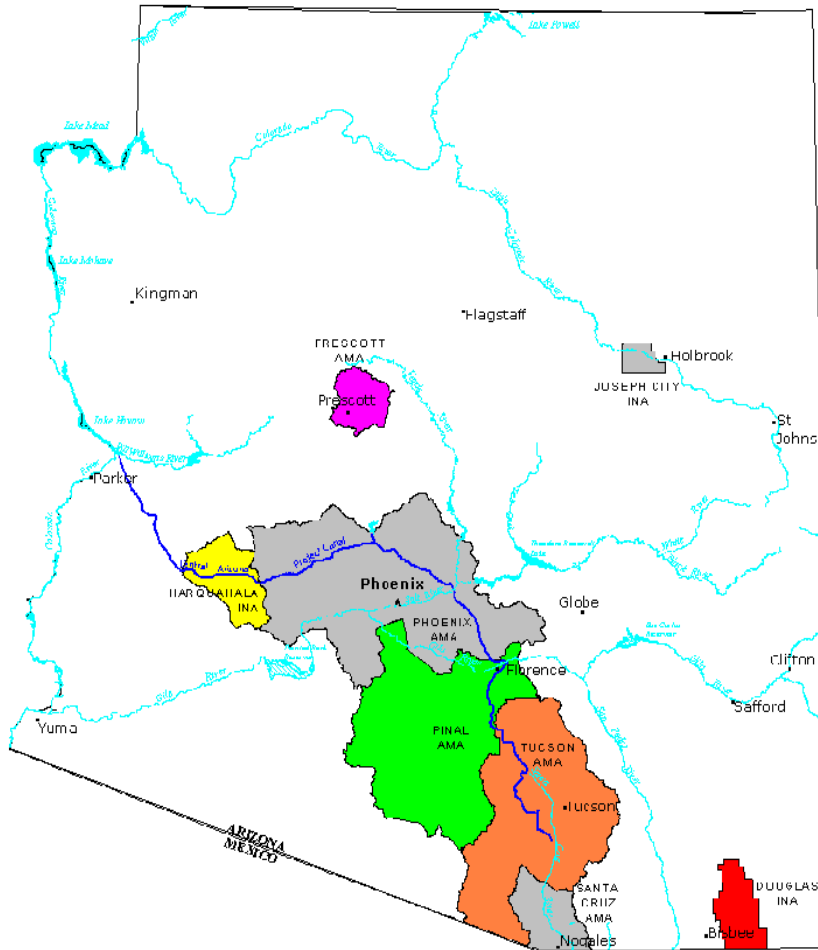
Best Management Practices Program

An Alternative Water Conservation
Program for Irrigated Agriculture



Offered by the
Arizona Department of Water Resources

The BMP Program...



Is available to farm operators and water right holders within any of the 5 active management areas of the state

The BMP Program...

- Is a practical, affordable approach to conserving water without sacrificing a farm's productivity or long-term sustainability



- Provides for an alternative conservation program designed to be more effective and flexible than the Base Program

BMP Program Features



- Performance-based
- Designed to increase water use efficiency
- Menu driven
- Balanced between physical and management improvements
- Qualifying point system
- Sensitive to market conditions
- No water allotments
- No flex account provisions
- Flex credits will be parked while enrolled

Program Eligibility



- Applicant must score a minimum point value
- May enroll a farm unit (multiple IGFRs) under a single BMP agreement
- Owners or lessees may enroll
- Must be in compliance with all Groundwater Code requirements
- May use substitute BMPs if equivalency can be demonstrated

BMP Program Categories

- Water Conveyance Improvements
- Farm Irrigation Systems
- Irrigation Water Management
- Agronomic Management



Program Practices

- Water Conveyance System Improvements
 - Concrete-lined ditches, pipelines, gated-pipe, drain-back systems



Program Practices

- Farm Irrigation Systems



- Slope systems without uniform grades with tail-water reuse
- Uniform slope systems without tail-water reuse
- Uniform slope systems with tail-water reuse
- Uniform slope in an I.D. that captures and redistributes return flows
- Modified slope systems
- High pressure sprinkler systems
- Near level systems
- Level systems
- Low pressure sprinkler systems
- Trickle or drip irrigation systems

Program Practices

- Irrigation Water Management (IWM)



- Laser touch-up
- Alternate row irrigation
- Furrow checks
- Angled rows
- Participation in IWM programs
- Temporary sprinklers
- Surge irrigation
- Using Irrigation Scheduling Services
- Participation with I.D. to increase flexibility of deliveries
- Measure flow rates to determine water applied
- Soil moisture monitoring
- Computer based model using meteorological data

Program Practices

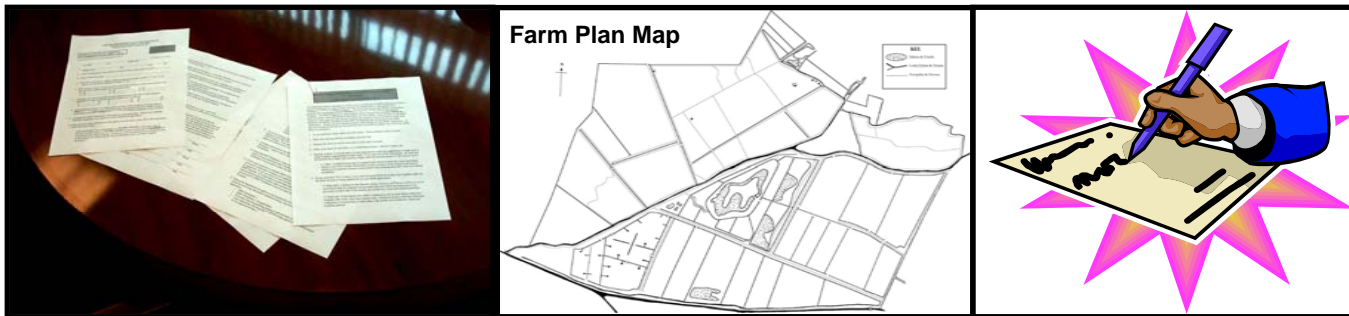
- Agronomic Management



- Crop rotation
- Crop residue management
- Soil and water quality testing
- Pre-irrigation surface conditioning
- Use of transplants
- Plastic mulch or floatable row covers
- Shaping furrows or beds
- Planting in the bottom of furrows

How to Apply

- Must submit a BMP Application form including the necessary BMP worksheets
- Include a farm plan map documenting physical farm management improvements
- If leased land, a signed affidavit from landowner authorizing enrollment into BMP Program



BMP Application

- Enter all of the IGFR certificate numbers within the farm unit
- The Department will review each IGFR's flex account to determine eligibility
- Enter the BMP Worksheet scores and attach the worksheet to the application
- Submit a current Farm Plan Map with the application
- If leased land, a signed affidavit from the owner is required

9. In order for the Department to verify your farm or farm unit's eligibility for enrollment in the BMP Program, you are required to submit with this application the following items:

- A current farm plan map showing all existing improvements to the farm unit's water conveyance system and farm irrigation systems.
- If the applicant is a lessee, a signed affidavit from the owner of each IGFR stating that the owner agrees to regulation under the BMP Program until the effective date of any substitute conservation requirements established in the Fourth Management Plan.

If you have any questions pertaining to this application or with respect to the Department's Agricultural Best Management Practices Program please consult your local AMA representative.

10. The individual or entity applying for entrance in the BMP Program must sign and date the application below. By signing this application, the applicant certifies that all of the information provided is true and accurate to the best of his or her knowledge and belief, and that the applicant will comply with the requirements of the Best Management Practices Program as defined.

Name (Please Print)

Title

Signature

Date

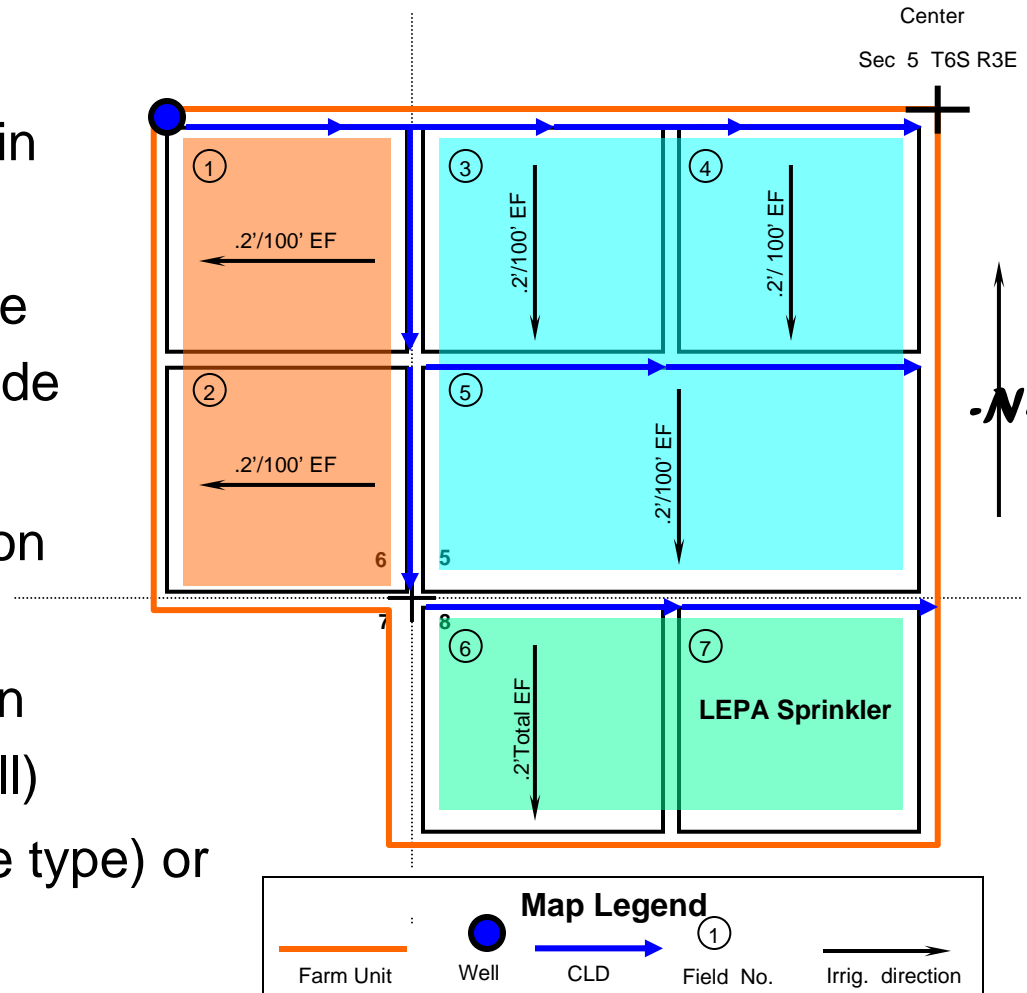
BMP Worksheet

- Worksheet is organized into the 4 BMP Categories
- Each category allows the accumulation of up to 3 points
- An applicant must score at least 2 points in Category 2 to be eligible for the BMP Program
- A total of 10 or more points must be scored on the worksheet to be accepted into the BMP Program

Category 3: Irrigation Water Management (IWM) (Total Allowable Points = 3)		POINTS
<i>Enter points based on the following IWM Practices used or to be implemented.</i>		
3.1 Laser touch-up = 1 point		
3.2 Alternate row irrigation = 1 point		
3.3 Furrow checks = 1 point		
3.4 Angled rows/contour farming = 1 point		
3.5 Surge irrigation = 1 point		
3.6 Temporary sprinklers = 1 point		
3.7 Participation in an educational irrigation water management program = 1 point		
3.8 Participation in a consultant or irrigation district sponsored irrigation scheduling service = 1 point		
3.9 Participation in an irrigation district program to increase the flexibility of water deliveries = 1 point		
3.10 Measure flow rates to determine amount of water applied = 1 point		
3.11 Soil moisture monitoring = 1 point		
3.12 Computer based model using meteorological (e.g. AZMET) data = 1 point		
Enter the total point value from Category 3 (up to a maximum of 3 points).	SUBTOTAL: (Category 3)	
Category 4: Agronomic Management (Total Allowable Points = 3)		
<i>Enter points based on the following Agronomic Practices used or to be implemented.</i>		
4.1 Crop Rotation = 1 point		
4.2 Crop Residue Management = 1 point		
4.3 Soil and/or Water Quality Testing = 1 point		
4.4 Pre-Irrigation Surface Conditioning = 1 point		
4.5 Transplants = 1 point		
4.6 Mulching = 1 point		
4.7 Shaping Furrow or Bed = 1 point		
4.8 Planting in Bottom of Furrow = 1 point		
Enter the total point value from Category 4 (up to a maximum of 3 points).	SUBTOTAL: (Category 4)	
Add the subtotals from Categories 3 and 4 above.	SUBTOTAL: (Categories 3 & 4)	
Enter the subtotals from Categories 1 and 2 from page 1.	SUBTOTAL: (Categories 1 & 2)	
Add subtotals of Categories 1,2,3, & 4 and enter total points. Total points must equal 10 or greater to be eligible for the Best Management Practices Program.	TOTAL: (Categories 1,2,3,4)	

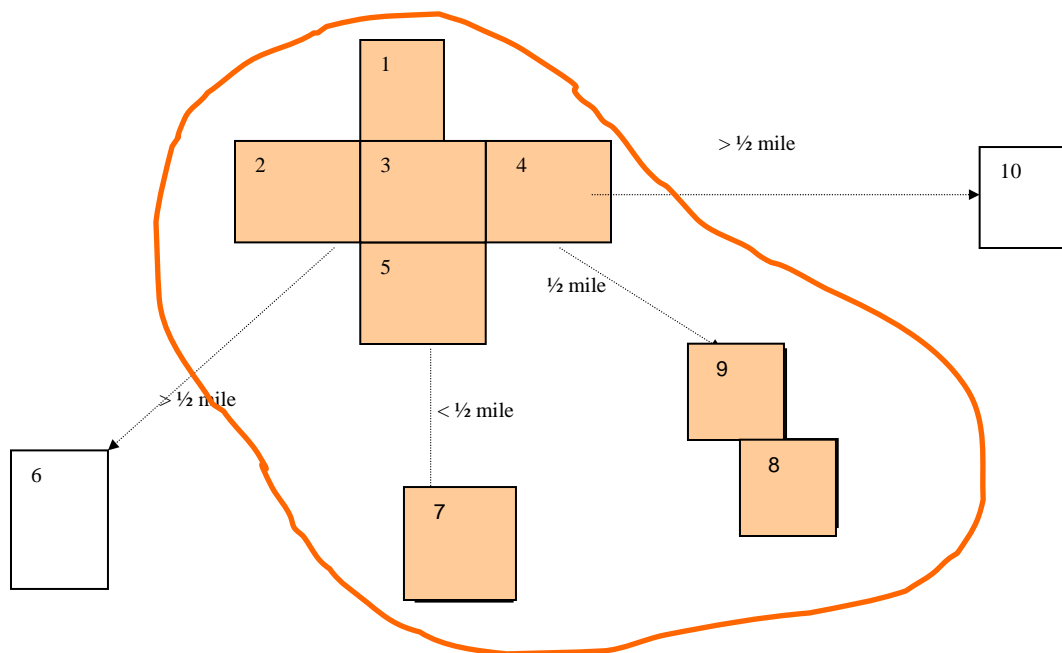
Farm Plan Map

- Identify the IGFRs that make up the BMP farm unit
- Annotate the field numbers within the BMP farm unit
- Plot the sources of water and the water conveyance system (include tailwater reuse systems)
- Annotate the direction of irrigation for each field
- Indicate the slope of each field in the direction of irrigation (end-fall)
- Indicate where sprinkler (include type) or drip systems are used



What is a Farm Unit?

- Other IGFRs or groupings of contiguous IGFRs may also be included as part of the BMP farm unit so long as they are located within a half-mile of the fields served by the common distribution system.



Note: The director may allow inclusion of an IGFR at a distance greater than a half-mile if it better facilitates the implementation of agricultural conservation practices under the BMP Program.

BMP Program Enrollments



- To date, 37 farm unit owners/operators have applied for entrance into the program
 - ✓ 31 applicants have been certified as eligible for enrollment
 - ✓ 6 applicants need to submit additional information
 - ✓ Over **24,000 irrigation acres** on a total 96 water rights
 - ✓ Over **281,000 acre-feet of flex credits** will be parked
 - ✓ Only 3 water rights had negative credits totaling **3,300 debits**
 - ✓ Less than 1500 acre-feet of credits must be purchased to be in compliance with the flexibility account provisions

Observations to Date



- Interest in the BMP Program is growing
- Applicants have shown a high level of interest in conserving water and managing their farm units
- Irrigation systems installed on the farm units are water efficient and most are “State of the Art”
- Phoenix and Pinal are the only AMAs that have received enrollment applications to date
- Processing an additional 3,000-5,000 acres per month

BMP Annual Reports

- Summary Page
- Schedule A - BMP
- Schedule E - BMP
- Schedule D - BMP
- Schedule BMP
 - Document system changes or improvements
 - Report the types of BMPs applied on the farm unit

SCHEDULE BMP Agricultural BMP Program Participant

ANNUAL REPORT 2003

BMP Enrollee: _____

Address: _____

Phone: _____

ARIZONA DEPARTMENT OF WATER RESOURCES

BMP Farm Unit No.

BMP Farm Unit Name: _____

Irrigation Rights within the BMP Farm Unit

58- _____	58- _____
58- _____	58- _____
58- _____	58- _____
58- _____	58- _____
58- _____	58- _____
58- _____	58- _____

PART 1 – Description of Water Conveyance System Changes or Improvements

Please describe the extent of each type of water conveyance system change or improvement implemented on the BMP Farm Unit during 2003. Indicate if no changes or improvements were made during the reporting year.

PART 2 – Description of Farm Irrigation System Changes or Improvements

Please describe the extent of each type of farm irrigation system change or improvement made on the BMP Farm Unit during 2003. Indicate if no changes or improvements were made during the reporting year.

PART 3 – Irrigation Water Management Practices Applied

Please check from the list below the types of irrigation water management BMPs that were applied to the BMP Farm Unit during 2003.

- | | | |
|--|--|---|
| <input type="checkbox"/> BMP 3.1 Laser touch-up | <input type="checkbox"/> BMP 3.2 Alternate row irrigation | <input type="checkbox"/> BMP 3.3 Furrow checks |
| <input type="checkbox"/> BMP 3.4 Angled rows | <input type="checkbox"/> BMP 3.5 Surge irrigation | <input type="checkbox"/> BMP 3.6 Temporary sprinklers |
| <input type="checkbox"/> BMP 3.7 Participation in an educational irrigation water management program | | |
| <input type="checkbox"/> BMP 3.8 Participation in a consultant or irrigation district sponsored irrigation scheduling service | | |
| <input type="checkbox"/> BMP 3.9 Participation in an irrigation district program to increase the flexibility of water deliveries | | |
| <input type="checkbox"/> BMP 3.10 Measure flow rates | <input type="checkbox"/> BMP 3.11 Soil moisture monitoring | <input type="checkbox"/> BMP 3.12 Computer scheduling |
| <input type="checkbox"/> Approved substitute BMP (note below) | | |

Please indicate below if the BMPs checked are different than what was agreed to at time of enrollment into the BMP Program. If you are practicing different BMPs indicate your reasons for doing so.

PART 4 – Agronomic Management Practices Applied

Please check from the list below the types of agronomic management BMPs that were applied to the BMP Farm Unit during 2003.

- | | | |
|--|---|---|
| <input type="checkbox"/> BMP 4.1 Crop rotation | <input type="checkbox"/> BMP 4.2 Crop residue management | <input type="checkbox"/> BMP 4.3 Soil and water quality testing |
| <input type="checkbox"/> BMP 4.4 Pre-irrigation surface conditioning | <input type="checkbox"/> BMP 4.5 Transplants | <input type="checkbox"/> BMP 4.6 Mulching |
| <input type="checkbox"/> BMP 4.7 Shaping furrow or bed | <input type="checkbox"/> BMP 4.8 Planting in bottom of furrow | <input type="checkbox"/> Approved substitute BMP (note below) |

Please indicate below if the BMPs checked are different than what was agreed to at time of enrollment into the BMP Program. If you are practicing different BMPs indicate your reasons for doing so.

BMP Evidencing



- BMP Enrollees must certify each year that all required BMPs have been implemented (Schedule BMP)
- BMP Enrollees must keep and maintain all records evidencing the application of BMPs for at least three calendar years
- Methods of evidencing BMPs may include:
 - ✓ Receipts and purchase orders
 - ✓ Dated agreements
 - ✓ Records, notes, certificates, or maps
 - ✓ Signed statement from enrollee
 - ✓ Photo confirmation
 - ✓ Third party verification
 - ✓ Possession of specialized equipment

Program Evaluation



Currently, the Department is:

- Determining criteria and data needs for evaluating the BMP Program and practices, including impact on AMA goal and administrative burden

Over the next several years, the Department will:

- Evaluate existing BMPs for effectiveness and new practices for program inclusion
- Determine whether the BMP Program will achieve conservation savings equivalent to that of the Base Program

Program Duration

- The BMP Program will be offered until the end of the Third Management Period
- If proven to be equivalent to the Base Program the Department may implement the BMP Program in subsequent management periods



Agricultural BMP Program



Questions & Comments

