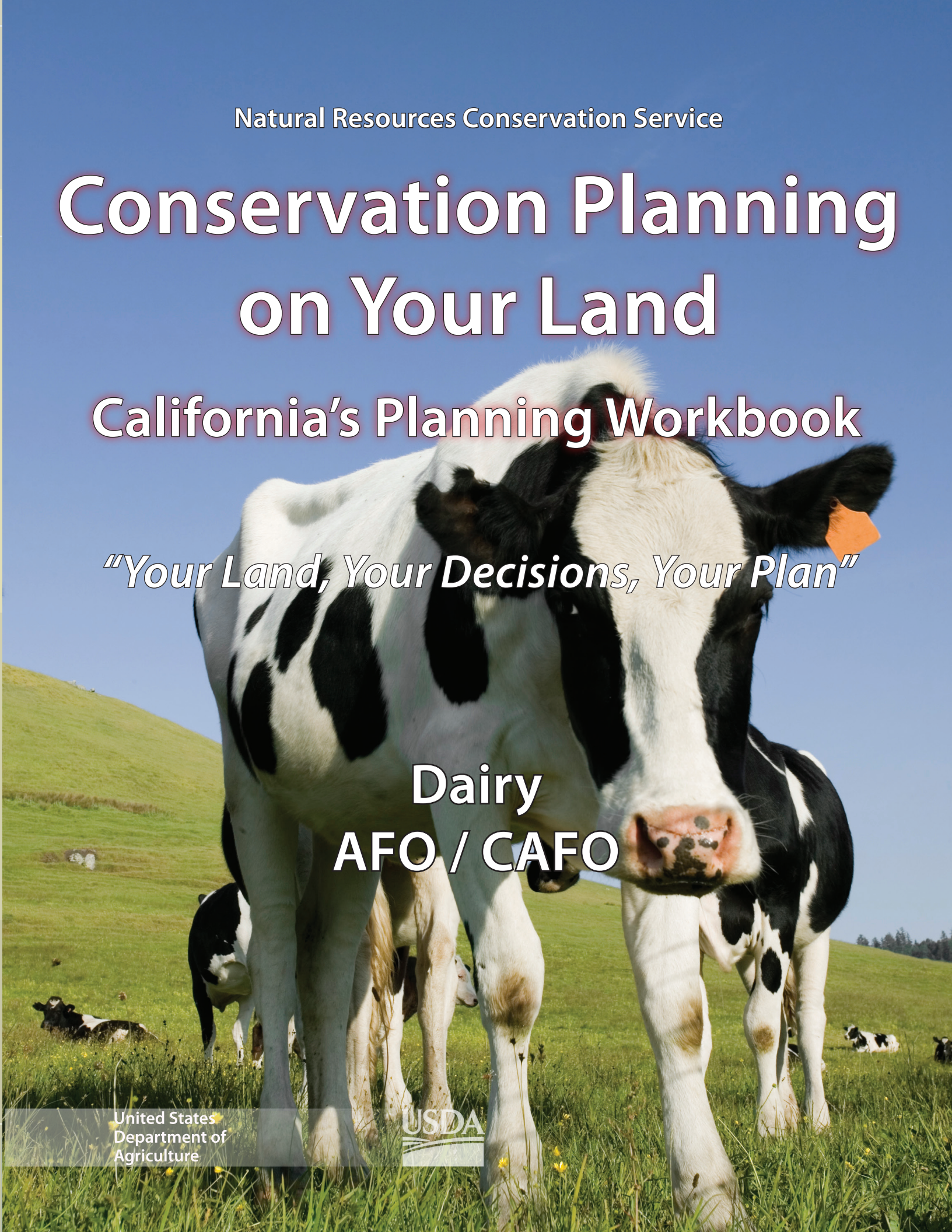
Natural Resources Conservation Service

Conservation Planning on Your Land

California's Planning Workbook

"Your Land, Your Decisions, Your Plan"

Dairy
AFO / CAFO



United States
Department of
Agriculture

USDA

Conservation Planning on Your Land

This workbook will help you bring together the information you need to complete a conservation plan. The questions are designed to gather information about your land, objectives, and management. ***Although the information will be reviewed by a conservation planner, it is confidential and belongs to you. It will NOT be released to other agencies, groups or individuals.***

Dairy, Animal Feeding Operation/Confined Animal Feeding Operation

Please take some time to answer the following questions as best you can. NRCS will assist you with any questions that you do not know. Feel free to use additional sheets, as desired, to answer questions. The more information you supply the easier it will be to help you.

What are the long term goals for your property?

_____

_____

_____

Do you have a Comprehensive Nutrient Management Plan (CNMP) that represents your AFO/CAFO's existing conditions? ☐ Yes ☐ No

Do you have a Waste Management Plan, Nutrient Management Plan, Farm Plan or any other existing documentation for your AFO/CAFO? Yes ☐ No ☐

If yes, are you willing to provide a copy to NRCS? Yes ☐ No ☐

Headquarter Questions

Are there any issues on your headquarters that you would like us to be aware of?

_____

_____

What kind of animals do you have? (Please fill out attached "Animal Inventory" worksheet in Attachment A)

If you have milking animals, how do you cool your milk? Air cooled ☐ Water cooled ☐

Do you recycle any clean water from your milk barn? Yes ☐ No ☐ N/A ☐

If Yes, please explain:

_____

_____

Headquarter Questions (cont.)

Is all water from your facilities and corrals contained on your property? Yes ☐ No ☐

If No, Please explain:

_____

_____

Is your dairy flushed or scraped? flushed ☐ scraped ☐

Is all manure and/or silage stored on an impervious surface (i.e.: concrete, asphalt, etc.)? Yes ☐ No ☐
If No, Please explain:

_____

_____

Do all of these storage areas drain to the lagoon? Yes ☐ No ☐

If No, Please explain:

_____

_____

After it rains, is there any standing water in your corrals or anywhere else on your property?
Yes ☐ No ☐
If Yes, Please explain:

_____

_____

Do you have a manure storage lagoon on your property? Yes ☐ No ☐

If Yes, work with a planner to fill out "Pond Inventory" (Attachment B) and "Concrete"(Attachment C) worksheets.

Do you have a mechanism to separate solid manure from liquid manure? Yes ☐ No ☐ N/A ☐

If yes, please explain how you separate out solids:

_____

_____

If No, are solids in your manure lagoon an issue? Yes ☐ No ☐

Please explain:

_____

_____

Headquarter Questions (cont.)

Is the capacity of your manure storage lagoon an issue on your property? Yes ☐ No ☐ N/A ☐

If yes, please explain:

_____

_____

Can you store liquid manure through the rainy season? Yes ☐ No ☐

If No, please explain:

_____

_____

Do all your buildings have gutters that are in functioning condition? Yes ☐ No ☐

If no, do the buildings that do not have gutters cause an issue on your property? Yes ☐ No ☐

If yes, please explain:

_____

_____

Do any guttered buildings drain to the manure storage lagoon? Yes ☐ No ☐

Do you have a dedicated pump for flushing your lanes? Yes ☐ No ☐

Do you agitate your liquid manure prior to application? Yes ☐ No ☐

Do you export any liquid or solid manure? Yes ☐ No ☐

If yes, please tell us how much, how often and to whom?

_____

_____

Do you have maps showing existing location of all manure structures (pipelines, pumps, mix boxes, flowmeter, manure storage lagoons, manure pad' etc.) on headquarters? Yes ☐ No ☐

If yes, please share with your conservation planner.
If No, please work with a conservation planner to locate all manure structures on a map.

CROP/PASTURE QUESTIONS

Describe the water resources on your property (e.g. streams, vernal pools, wetlands, ponds).

_____

_____

Do you have maps showing the existing infrastructure on your cropland? Yes ☐ No ☐

If yes, please share with you conservation planner.
If no, please work with your conservation planner to locate all infrastructure on your cropland including, but not limited to, irrigation pipeline, manure pipeline, mix boxes and tailwater return systems.
Please also indicate which fields receive liquid and/or solid manure.

CROPPING INPUT DATA

Field Name	Crop Name	Acres	Yield (tons/ac)	Fertilizer N (lbs/ac)	Irrigation N (lbs/ac)	Fertilizer P (lbs /ac)	Fertilizer K (lbs/ac)	Recieves Solid Manure	Recieves Lagoon Water

CROP/PASTURE QUESTIONS (cont.)

Can you apply liquid manure to all of your cropland? Yes ☐ No ☐

If No, is there a possibility to add additional infrastructure so that these fields can receive liquid manure?

Yes ☐ No ☐

Please explain:

_____

_____

When do you apply liquid and solid manure to your fields? And how do you determine when and how much to apply? (i.e flowmeter, metered truck, soils tests….)

_____

_____

_____

Do you have any head to head flows of irrigation water and manure water for your cropland?

Yes ☐ No ☐

If yes, which fields?

_____

Do you have any ponding at the end of your fields? Yes ☐ No ☐

If yes, which fields and is it an issue?

_____

Can any of your properties drain offsite? Yes ☐ No ☐

If yes, where do they drain to?

_____

Do you have functioning tail-water return systems in place? Yes ☐ No ☐

Can you block the drains? Yes ☐ No ☐

If drains can be blocked, do you block them when applying lagoon water and/or for at least 60 days after application of solid manure?

Yes ☐ No ☐

Do you have soils and/or tissue analysis completed? Yes ☐ No ☐

CROP/PASTURE QUESTIONS (cont.)

If yes, please explain how often and what kind of analyses are completed?

_____

_____

_____

Do you take samples of liquid manure and/or solid manure prior to application and have them tested?

Yes ☐ No ☐

If yes, please explain how often and what kind of tests you take?

_____

_____

PASTURED DAIRY QUESTIONS (if applicable)

Are you certified Organic, or in transition to Organic certification? Yes ☐ No ☐

How many milking strings do you run? _____

What type of grazing system do you use for your pastures (i.e. continuous, timed rotation, rest rotation, deferred rotation, targeted rotation, managed intense rotation, etc.)?
And briefly describe:

_____

_____

_____

Do you document your grazing periods in each field? Yes ☐ No ☐

Please describe method:

_____

_____

_____

Do you have permanent fence infrastructure, electric, temporary electric, or a combination? Yes ☐ No ☐

Please describe your fence infrastructure to support your grazing regime:

_____

_____

_____

PASTURED DAIRY QUESTIONS (cont.)

Do you have adequate water troughs to support your grazing regime? Yes ☐ No ☐

Do you have adequate water storage to support your livestock demand? Yes ☐ No ☐

What is the source for your livestock water? Examples such as springs, ponds, wells, water district, water hauled, or other:

_____

_____

Do you have compaction issues around water troughs, or in specific areas of a field? Yes ☐ No ☐

Are there any problems with pasture lanes, or pasture accessibility? Yes ☐ No ☐

Do you have pasture concerns, such as health, production, invasive species, percent desirable grass and legumes, etc.? Yes ☐ No ☐

Do you reseed your pastures? Yes ☐ No ☐

And if so, how often and what do you seed with?

_____

_____

Are you planning any changes or additions to your pasture vegetation? Yes ☐ No ☐

Do you irrigate your fields? Yes ☐ No ☐

And if so, please describe timing, source and method?

_____

_____

Do you apply waste liquid, slurry or solids to you pastures? Yes ☐ No ☐

If so, what is the method, timing, and amount? Please describe, as well as identify type of application per field:

_____

_____

Do you fertigate your fields? Yes ☐ No ☐

If so, what type of gun do you use?

_____

PASTURED DAIRY QUESTIONS (cont.)

Do you apply commercial fertilizers? Yes ☐ No ☐

If so, when and where is application made?

_____

_____

Do you lime or fertilize according to soil test levels? Yes ☐ No ☐

Do you work with a nutritionist or feed consultant? Yes ☐ No ☐

What do you supplement feed? Yes ☐ No ☐

If yes, please describe:

_____

_____

Attachment A

Breed of cattle (ie. Holstein) _____

Animal Description	Number of Animals	Est. Average Weight (lbs.)
Example: Milk Cows	100	1,400

Attachment B

Work with your planner if you have waste storage on the property.
NOTE: Most of this information can be found in your Waste Management Plan.

Manure Storage Pond Inventory

Pond Design Data

Design Storage Period		days
Estimated water from milk barn		gal./day
Additional or daily freshwater calculated by other means		gal./day
Bedding to pond		cu.ft./day
Tailwater or Dilution Water added per storage period		total gal.
Manured surfaces draining to the pond		acres
Concrete surfaces draining to the pond		sq.ft.
Roof surfaces draining to the pond		sq.ft.

			Pond 1	Pond 2	Pond 3
Hb	Embankment Height	ft.			
Wb	Embankment Top Width	ft.			
Fb	Freeboard	ft.			
Hp	Depth of Pond (freeboard + design depth)	ft.			
RSp	Planned Residual Solids Accumulation	ft.			
Hpi	Minimum Pump Intake Height	ft.			
SSg	Side Slope (Ground Side)	'X' Horiz:1 Vert			
SSp	Side Slope (Pond Side)	'X' Horiz:1 Vert			
L	Pond Length (measured at top inside edge of embankment)	ft.			
W	Pond Width (measured at top inside edge of embankment)	ft.			
C:F	Cut:Fill Ratio	'X' Cut: 1 Fill			

Attachment B (cont.)

			Pond 4	Pond 5	Pond 6
Hb	Embankment Height	ft.			
Wb	Embankment Top Width	ft.			
Fb	Freeboard	ft.			
Hp	Depth of Pond (freeboard + design depth)	ft.			
RSp	Planned Residual Solids Accumulation	ft.			
Hpi	Minimum Pump Intake Height	ft.			
SSg	Side Slope (Ground Side)	'X' Horiz:1 Vert			
SSp	Side Slope (Pond Side)	'X' Horiz:1 Vert			
L	Pond Length (measured at top inside edge of embankment)	ft.			
W	Pond Width (measured at top inside edge of embankment)	ft.			
C:F	Cut:Fill Ratio	'X' Cut: 1 Fill			

Attachment C

Work with planner if you have waste storage on the property.

Concrete, Roof, Manured, and Bare Areas Drained to the Manure Storage Pond

Roof areas that may drain to pond					
Label	**Width (ft.)**	**Length (ft.)**	**Area (sq.ft.)**	**Diverted (yes or no)**	**Diverted Area (sq.ft.)**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Total Roof Area = _____ sq.ft.

Diverted Roof Area = _____ sq.ft.

Undiverted Roof Area = _____ sq.ft.

Concrete Areas NOT Under a Roof			
Label	Width (ft.)	Length (ft.)	Area (sq.ft.)
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			
K			
L			
M			
N			
O			
P			
Q			
R			
S			
T			
U			
V			
W			
X			
Y			
Z			
Total Area _____sq.ft.			

Manured and Bare Areas Draining to the Pond:

Measure the total potential area drained to the pond. The spreadsheet will subtract the concrete and roof areas to determine the manured and bare areas.

Total Area drained to the pond _____ sq.ft.
Total Roof Area _____ sq.ft.
Concrete Areas _____ sq.ft.
Total manured and bare areas _____ acres

Notes:

To access the other Conservation Planning on Your Land fillable workbooks, click here

United States Department of Agriculture

For more information, contact your local NRCS office or visit the web at:
http://www.ca.nrcs.usda.gov

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