

DEPARTMENT OF AGRICULTURE,
WEIGHTS AND MEASURES

2016 Livestock & Crop Report



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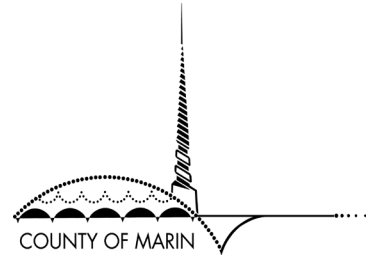
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In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the 2016 Annual Livestock and Crop Report for Marin County. This publication is a summary of counts, acreage, yields, and gross value of all agricultural production in Marin County.

The total gross value of agricultural crops and products in 2016 was \$96,506,000. This represents a decrease of approximately \$14,555,000, or 13% less, compared to the 2015 total gross value of \$111,061,000. It should be emphasized that the values stated in this report represent gross returns and do not indicate actual net profit.

Milk remains the top commodity for Marin at \$43,135,000, and accounts for 45% of the total gross value. Poultry eclipsed Cattle as the second highest grossing commodity with a value of \$19,117,000, or 20% of the total gross value.

The value of Cattle decreased 53% to \$10,543,000, the largest value decrease for a commodity in 2016. Although production increased in 2016, the significant value decrease is largely attributed to the reduction in the price paid per pound as it recedes from a historic high. This \$11,759,000 reduction in value accounts for the majority of the 13% reduction in total gross value of agricultural crops and products in 2016.

Hay crop values dropped 47% due to a decrease in reported values per ton as well as total tons harvested. Similarly, the total value of Fruits and Vegetables decreased 29% due to lower reported vegetable values. Aquaculture values decreased 26% because of decreased oyster production.

After unfavorable weather caused an abnormally small harvest in 2015, Marin County's Wine Grape production rebounded in 2016 to a more typical harvest with total values up 150%. Wool values, up 49% from 2015, continue to rise as production increases and higher prices are paid for premium fleeces.

My appreciation goes to the many growers, producers, individuals and organizations for their cooperation in providing the information necessary for this report. I would like to extend special thanks to members of my staff, especially Allison Klein and Jeff Stiles, for their help in producing this report.

Respectfully submitted,

Stacy K. Carlsen
Agricultural Commissioner
Director of Weights & Measures

Requests for accommodations may be made by calling (415) 473-6700 (Voice), (415) 473-3232 (TTY) or by e-mail at SParnay@marincounty.org. Copies of documents are available in alternative formats, upon request.

Cover photo: Cows resting in pasture by Jeffrey Stiles

Supervisor Steve Kinsey Leaves a Remarkable Legacy:

20 Years of Dedicated Service as Marin County's 4th District Supervisor

It's hard to imagine Marin County without the pastoral and fertile lands that bring us a bounty of local produce, fresh meats, and a multitude of value-added products. Agriculture is a vital contributor to Marin's diverse and healthy economy. The uniqueness of agriculture in Marin requires visionary leaders, producers, and advocates with the ability to guide and support county government in effectively addressing critical agricultural issues, and ensuring agriculture remains viable into the future.

In December 2016, after 20 years of service to Marin County, 4th District Supervisor Steve Kinsey stepped down from government. Supervisor Kinsey is a visionary and has helped the agricultural industry grow and evolve into what it is today. He was first elected to the Marin County Board of Supervisors in November 1996. He was re-elected to four more terms, giving him one of the longest tenures in County history.

Throughout his tenure, Supervisor Kinsey was steadfast and passionate in his pursuit of protecting the agricultural landscape and historic ranching community in

West Marin. Nearly 171,000 acres in the County are farms or ranches located in West Marin. This amounts to half of the land in Marin County.

When Supervisor Kinsey took office in 1997, Marin County's agricultural industry was valued at \$57 million, and by 2015 it valued over \$111 million. The 1997 and 2010 Marin County Agricultural Summits, co-sponsored by Supervisor Kinsey, were significant moments of convening and planning that led to real changes and innovations within Marin County's agricultural industry.

Many recommendations from both summits (and subsequent Ag Roundtable meetings) were pursued

and successfully implemented. A few key accomplishments (out of many) of both summits include:

1997 Ag Summit

- Farmland preservation
- The creation of Marin Organic
- Consumer education to buy locally grown products
- Increasing education to our youth about agriculture and its importance
- The establishment of the Marin Organic Certified Agriculture (MOCA) program

2010 Ag Summit

- Support for carbon farming
- Increased agricultural tourism
- Streamlined permitting process
- Improved marketing opportunities created by the "Grown in Marin" campaign
- Animal processing capacity in the region, including local processing of poultry

Supervisor Kinsey worked collaboratively with numerous agencies and individuals to help protect the historic ranching families in Point Reyes National Seashore. He championed farmers' market expansions in Point Reyes and at the Civic Center. In addition, Supervisor Kinsey had a lot to do with expanding the role of the Marin Agricultural Land Trust (MALT), the organization whose goal is protecting agricultural land in the County.

West Marin's agriculture and community character is ultimately important to all of Marin, and Supervisor Kinsey has played an instrumental role in how it has grown into an internationally recognized

leader in sustainability.

The 4th District includes the rural areas of West Marin, representing about two-thirds of the county's area, but it also includes Corte Madera, San Quentin Village, the Canal neighborhood of San Rafael, western Novato, and parts of Larkspur. Given the expansive and diverse nature of the 4th District, Kinsey was fully engaged in a broad range of interests that affected his constituents, including transportation, natural resource policy, social services, land use planning, fiscal management, and sustainable agriculture.

One of Supervisor Kinsey's mottos was, "Less rules, more relationships — that's what moves a community. If government can learn to be less regulatory and more the convener of partnerships we will go further together."

Photo: Fence post and barnyard by Jeffrey Stiles



Agricultural Production Summary

TEN YEAR SUMMARY

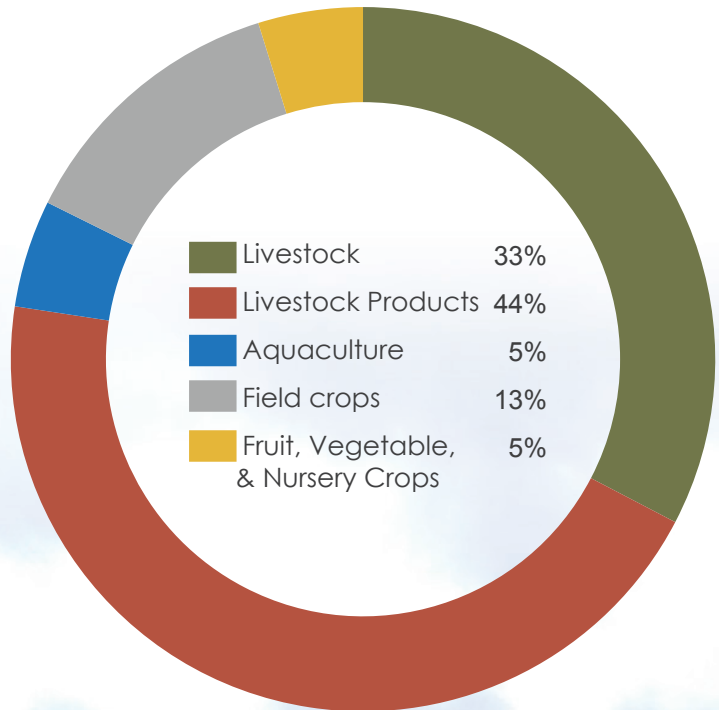
The gross value of all agricultural production in the County of Marin for 2016 is approximately

\$96,506,000

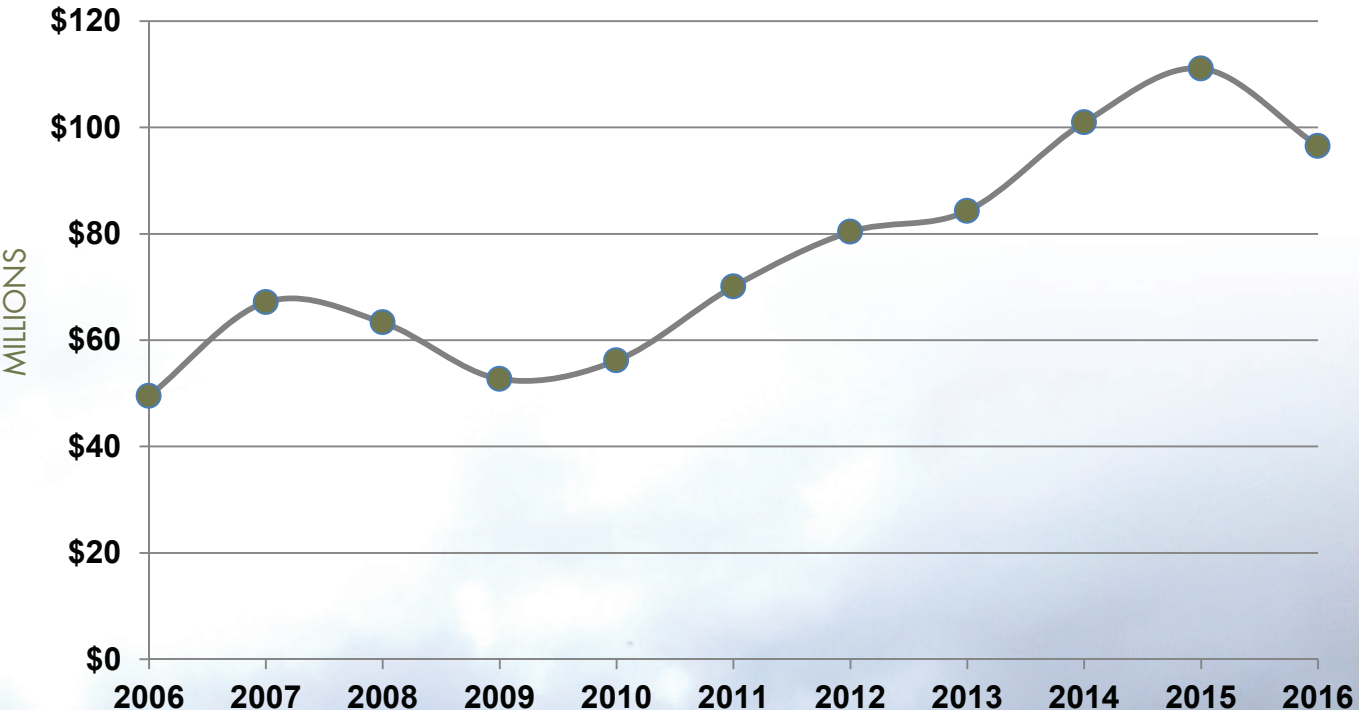
which represents a change of approximately

-13%


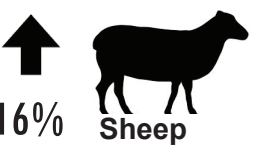


compared to the gross value of 2015, which was approximately \$111,061,000.



Percentage of total production value



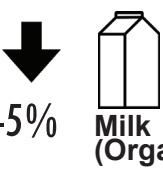
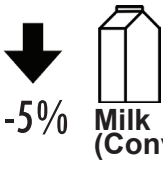

Livestock & Aquaculture

	Head	\$ / Head	Dollar Value
 -53% Cattle	14,562 13,972	\$724 \$1,596	\$10,543,000 \$22,302,000
 16% Sheep	10,074 9,824	\$178 \$158	\$1,793,000 \$1,552,000
 12% Poultry			\$19,177,000 \$17,175,000
 -26% Aquaculture			\$4,760,000* \$6,400,000
Total Value:			\$36,273,000 \$47,429,000

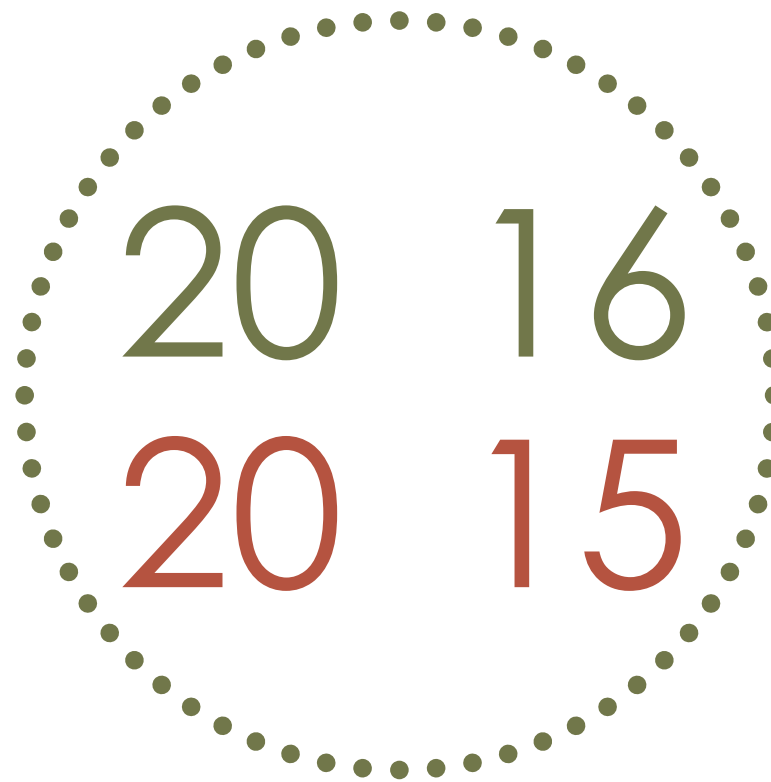
Poultry figures include poultry fryers and chicken eggs for consumption.

Aquaculture figures include oysters, mussels and clams.



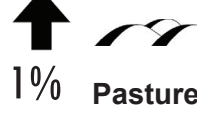
Livestock Products

	Production	\$ / Unit	Unit	Dollar Value
 -5% Milk (Organic)	1,062,252 1,096,797	\$36.85 \$37.50	CWT CWT	\$39,144,000 \$41,130,000
 -5% Milk (Conv.)	265,563 274,199	\$15.03 \$15.38	CWT CWT	\$3,991,000 \$4,217,000
 49% Wool	60,441 58,943	\$0.84 \$0.58	LBS LBS	\$51,000 \$34,000
Total Value:				\$43,186,000 \$45,381,000

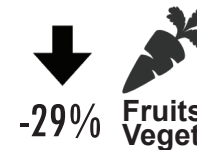
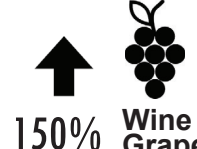
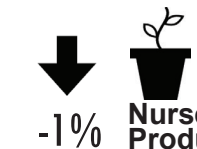
*Aquaculture value based on report prepared by California Department of Fish and Wildlife. 2015 totals have been revised to reflect rounding conventions. All totals are rounded. 2016 data is presented in green above; the 2015 data is presented in red.




Field Crops

	Acreage	Total Tons	\$ / Ton	Dollar Value
 -47% Hay**	2,533 1,600	4,773 5,915	\$141 \$215	\$673,000 \$1,272,000
 20% Silage	1,558 1,669	9,510 13,488	\$68 \$40	\$647,000 \$540,000
 1% Pasture				
	Harvested Acreage		\$ / Acre	Dollar Value
	154,000 154,000		\$72 \$71	\$11,088,000 \$10,934,000
Total Value:				\$12,408,000 \$12,746,000

Fruits, Vegetables & Nursery

	Acreage	Total Tons	Dollar Value
 -29% Fruits & Vegetables	410 309		\$3,412,000 \$4,793,000
 150% Wine Grapes	182 175	250 103	\$867,000 \$347,000
 -1% Nursery Products	9.43 7.61		\$360,000 \$365,000
Total Value:			\$4,639,000 \$5,505,000

**Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed. Following the National Agricultural Statistics Service for Acreage Harvested, acreage harvested and planted repeatedly during the year is counted each time. Harvested acreage for 2016 Fruits & Vegetables represents 227 actual acres.



Sustainable Agriculture Program Overview

PEST PREVENTION & DETECTION

Pest prevention encompasses several activities aimed at preventing the introduction and spread of exotic pests in Marin County. Pest exclusion focuses on preventing the entry and establishment of exotic pests and limiting the intrastate movement of newly discovered pests. Marin County inspectors monitor all primary pathways of pest entry into the county including nurseries and points of entry such as UPS and FedEx package terminals.

Pest detection is the systematic search for exotic pests outside a known infested area. The goal is to find infestations of harmful exotic pests as early as possible and eradicate them before eradication becomes biologically or economically infeasible.

INTEGRATED PEST MANAGEMENT

Integrated pest management (IPM) is a common-sense approach to pest management that uses a variety of methods and tools to control pests. IPM programs focus on preventing pest problems through cultural and biological measures, although pesticides may be part of an IPM program. The goal is to eliminate or reduce pesticide applications wherever possible and take reasonable measures to ensure that the long-term prevention or suppression of pests has minimal negative impact on human health, non-target organisms, and the environment.

PRODUCT QUALITY

Marin County inspectors protect consumers by inspecting agricultural products for compliance with laws, regulations, and standards. They also ensure that businesses are afforded a fair and equitable opportunity to market their products. Inspections are conducted at horticultural nurseries, farmers' markets, organic farms, and locations selling wholesale and retail eggs.

PROTECTION OF THE ENVIRONMENT

The Department operates a Pesticide Use Enforcement program that includes a permitting process for restricted pesticides as well as education and assistance for pesticide users. While reviewing, collecting and analyzing data and records associated with pesticide sales and use, our Department also monitors pesticide use applications, investigates pesticide-related citizen complaints, and conducts pesticide-related illness investigations. The ultimate goal of this program is to ensure the safe and effective use of pest control methods in order to protect public health and the environment, while strongly promoting the production of healthy, safe food and fiber through sustainable practices.

Additionally, the Department recommends Integrated Pest Management (IPM) strategies for long-term pest control such as the use of cultural, biological, and mechanical control methods (with chemical control as a last option).

LIVESTOCK PROTECTION PROGRAM

The Marin County Board of Supervisors continues to support and appropriate cost-share funds for the Livestock Protection Program to eligible ranchers who qualify for non-lethal depredation improvements and/or practices. Recognized non-lethal control methods include the use of protection animals (e.g., livestock guardian dogs, llamas, etc.), electric fencing, scare devices, and herd shepherding, which are eligible for cost-share funds to support ranchers. The Department administers verification inspections for cost-share funding for ranchers participating in this program.



Marin Organic Certified Agriculture (MOCA)

ORGANIC CERTIFICATION

The Marin County Department of Agriculture is accredited by the United States Department of Agriculture (USDA) as an official organic certification agency.

Marin Organic Certified Agriculture (MOCA) serves the local agricultural community growers who are employing organic farming practices. Organic production systems strive to achieve agro-ecosystems that are ecologically, socially, economically, and environmentally sustainable. Organic farming emphasizes a greater cooperation with nature without reliance on synthetic inputs.

Consumer demand for certified organic products continues to increase, with an expectation by consumers that organic products are verifiable. MOCA was established to provide a professional service to local individual and business operations engaged in the production and distribution of organically grown commodities.

The primary responsibility of MOCA is to uphold the standards of the USDA National Organic Program, and document/verify operations' practices of sustainable agriculture. One of the most important benefits of the MOCA program is as a local service that promotes the production of organic, value-added products by Marin's family farms.

In 2016, the number of MOCA certified operations totaled 51, including 2 processors; 36 of the operations are located within Marin County. The remaining 13 operations are located in Sonoma County, with the exception of two in Riverside County (managed by Marin County operations to ensure a year-round supply of fresh produce in the off-season).

All organic producers in California must register in their principal county of operation. In 2016, there were 65 registered organic producers in Marin County, farming 46,321 acres, which includes 45,933 acres in pasture, producing a total gross value of approximately \$66,123,269.



Pest Prevention Programs

PEST EXCLUSION

In 2016, inspectors conducted 2,337 incoming plant quarantine inspections. Plant shipments were monitored at Federal Express, UPS, nurseries, ethnic markets, aquatic supply stores, and post entry quarantine sites. The Department performed 39 Gypsy Moth inspections of household goods from infested states, as well as 1,605 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. Four rejections of plant material were made to protect Marin's agriculture and environment.

PEST DETECTION

In 2016, inspectors from the Marin County Department of Agriculture and the California Department of Food and Agriculture placed and serviced 1292 traps for exotic insect pests. The targeted pests included: Mediterranean Fruit Fly, Oriental Fruit Fly, Melon Fly, Gypsy Moth, Japanese Beetle, Glassy-Winged Sharpshooter (GWSS), Light Brown Apple Moth, and Asian Citrus Psyllid. Traps are strategically placed within the county on or near preferred hosts. For example, GWSS traps were placed in nurseries and urban areas; Mediterranean Fruit Fly traps were placed in fruit trees; Gypsy Moth traps were placed on hardwood trees; and Japanese Beetle traps were placed in urban landscaped areas.

BIOLOGICAL CONTROL

Biological pest control is the use of pests' natural enemies to help suppress pest populations to economically and environmentally acceptable levels. Once the agent becomes established, control is generally self-perpetuating, potentially eliminating or reducing the need to use pesticides.

The following are pests found in Marin and some of the methods that have been used to control them:

PEST	BIOLOGICAL AGENT
Gorse	Gorse Mite, Seed Weevil
Bull Thistle	Bull Thistle Gall Fly
Yellow Star Thistle	Peacock Fly
Scotch Broom	Stem Boring Moth
Ash White Fly	Parasitic Wasp
Italian Thistle	Seed Weevil
Purple Star Thistle	Seed Weevil
Klamath Weed	Beetle

GLASSY-WINGED SHARPSHOOTER

The Glassy-Winged Sharpshooter (GWSS), *Homalodisca vitripennis*, is a very serious threat to California agriculture. First observed in the state around 1990 and now found throughout Southern California and portions of the San Joaquin Valley, GWSS is a particular threat to vineyards due to its ability to spread *Xylella fastidiosa*, the bacterium that causes Pierce's disease in grapevines. Pierce's disease is lethal to grapevines and significant resources are committed annually to find effective treatments. GWSS also spreads other diseases to a variety of agricultural and ornamental plants, having the potential to substantially impact California's agriculture and environment if left unchecked.

To prevent the introduction of this leafhopper into Marin County, Department staff inspect incoming nursery plant shipments containing GWSS hosts from infested California counties. In 2016, a total of 1,605 shipments were inspected for GWSS, with no finds. In 2015, there were two adult GWSS finds which turned out to be isolated hitchhikers. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.

SUDDEN OAK DEATH

Marin County continues to be infested with Sudden Oak Death (SOD), the disease caused by the pathogen *Phytophthora ramorum*. Due to increased rainfall in 2016, increased infestations have been detected in several coastal counties, including Marin. Tree mortality in wildland and urban/wild land interface areas causes dramatic changes in the landscape, affecting ecosystems, increasing fire and safety hazards, and decreasing property values.

P. ramorum hosts include various native woodland trees and understory plants, as well as assorted ornamental nursery plants. State and federal quarantines regulate the movement of host nursery stock to prevent further spread.

On certain oaks such as Coast Live Oak, *P. ramorum* causes potentially lethal trunk cankers; on other hosts it causes leaf or twig blight, which is rarely lethal. Tanoaks may have both trunk cankers and leaf dieback. Unlike oaks, some hosts (i.e., California Bay Laurel) are not killed by this pathogen; instead these hosts act as a vector, allowing inoculum to spread through natural or artificial means (i.e., rainwater, soil, infested nursery stock) under moist conditions.

Prevention is the only treatment to protect trees from *P. ramorum*. Best preventative practices include keeping trees healthy so they maintain their natural defenses, pruning overstory California Bay Laurels, and strategically utilizing phosphonate treatment products. For more information about diagnosis, distribution, and best management practices, please visit: <http://www.suddenoakdeath.org>.

The following pests were intercepted in Marin County in 2016:

SCIENTIFIC NAME	COMMON NAME	RATING
<i>Epiphyas postvittana</i>	Light brown apple moth	A
<i>Bagrada hilarus</i>	Bagrada bug	B
<i>Siphanta acuta</i>	Torpedo bug	B
<i>Ceroplastes cirripediformis</i>	Barnacle scale	C
<i>Icerya purchasi</i>	Cottony cushion scale	C
<i>Pseudococcus longispinus</i>	Longtailed mealybug	C



Invasive Weed Management

MARIN/SONOMA WEED MANAGEMENT AREA (MSWMA)

The Marin/Sonoma Weed Management Area (MSWMA) group includes representatives from federal, state, county and city agencies, private industry, and landowners. MSWMA's goals include improving the effectiveness of local weed management efforts, increasing public awareness of invasive weeds, advancing responsible land stewardship practices, and working collaboratively with partner organizations by sharing resources and knowledge to manage and/or eradicate invasive weed populations. The MSWMA helps control weeds across land ownership boundaries by uniting landowners with public agencies and providing an opportunity to share resources in mapping and planning. Visit the Marin/Sonoma Weed Management Area website at <http://marinsonomawma.blogspot.com>.

Some high priority invasive weeds are found on private lands. The Rapid Response/Bay Area Early Detection Network (<http://baedn.org/>) connects MSWMA with ranchers, farmers, and private landowners to help address these infestations, with the goal of eradicating them before they become too large.

PROPOSED 10-YEAR INVASIVE WEED MANAGEMENT PLAN

Over the past two decades, noxious and invasive weeds have become an extremely serious, challenging, and widespread issue in Marin County. Several different species of injurious weeds have become established and have rendered thousands of acres of pastureland, rangeland, and natural areas unusable, increased the risk of wildfires, and successfully outcompeted numerous native plant species. It will take the combined effort, cooperation, and collaboration of numerous organizations, ranchers, and private landowners to successfully manage (and hopefully eradicate many of) these damaging weeds from Marin County. In preparing

this draft plan in 2013, the Department worked diligently to forge productive partnerships and build confidence with industry, community groups, and various other interested stakeholders through a collaborative and inclusive approach.

The centerpiece of this proposed plan will be education and outreach to landowners about best land management practices (e.g., grazing, soil health, native forage restoration, early detection and rapid response to invasive weeds, carbon sequestration, etc.). These land management practices will help protect productive land that is currently free of invasive weeds and will also fortify soil health, increase soil water retention capabilities, and encourage biodiversity. Landowners will be provided practical, proven IPM solutions to control existing invasive weed populations through effective land management practices, and a significant emphasis will be placed on early detection and rapid response. Education and outreach will also be provided to the general public, as well as to other organizations and agencies. The proposed management plan can be viewed at <http://www.marincounty.org/depts/ag/weed-plan>.

This proposed invasive weed management plan has been on hold since 2014. The Department hopes to move forward with the proposed plan in the future. The Department also intends to update Marin County's weed ordinance, which was last updated in 1959.



Marin Certified Farmers' Markets

Certified Farmers' Markets are community events bringing together farmers and consumers, offering the opportunity to meet local certified producers and learn how and where food is grown. Farmers may only sell what they grow so consumers are guaranteed the food is fresh and seasonal.

Marin Certified Farmers' Markets showcase the diversity and abundance of local and regional produce. Twenty-five Certified Producer Certificates were issued to producers and 12 farmers' markets were certified in 2016.

Check our website at <http://www.marincounty.org/depts/ag> to stay up to date with current market schedules.

MARIN COUNTY CIVIC CENTER

Thursday 8:00 am - 1:00 pm
Sunday 8:00 am - 1:00 pm
Open all year

FAIRFAX

Peri Park
Wednesday 4:00 pm - 8:00 pm
May - September

MILL VALLEY

E. Blithedale Ave @ Ashford Dr
Friday 9:30 am - 2:30 pm
Open all year

TAM VALLEY

Tam Valley Community Center
Tuesday 3:00 pm - 7:00 pm
May - November

CORTE MADERA

Corte Madera Town Center
Wednesday 12:00 pm - 5:00 pm
Open all year

FAIRFAX

Fairfax Library Parking Lot
Sunday 12:00 pm - 3:00 pm
October - April

NOVATO

Grant Avenue
Tuesday 4:00 pm - 8:00 pm
May - September

TIBURON

Main Street @ Tiburon Blvd
Thursday 3:00 pm - 7:00 pm
June - October

SAN RAFAEL

Fourth Street, San Rafael
Thursday 5:30 pm - 9:00 pm
April - September

LARKSPUR

Marin Country Mart
Saturday 9:00 am - 2:00 pm
Open all year

POINT REYES

Toby's Feed Barn
Saturday 9:00 am - 1:00 pm
June - November

