

ARROYO COLORADO AGRICULTURAL ISSUES WORKGROUP

Allen Berthold
Texas Water Resources Institute
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Objective

To encourage the voluntary adoption of BMPs to:

- Reduce suspended sediment levels resulting from cropland erosion
- BOD from runoff of crop residue
- Nitrogen and phosphorus fertilizer runoff from irrigated cropland fields

Milestones set in 2006

Date	Milestone
August 31, 2005	17% of irrigated cropland (~50,000 acres) under conservation plan
August 31, 2006	20% of irrigated cropland (~60,000 acres) under conservation plan
August 31, 2007	23% of irrigated cropland (~70,000 acres) under conservation plan
August 31, 2008	27% of irrigated cropland (~80,000 acres) under conservation plan
August 31, 2009	30% of irrigated cropland (~90,000 acres) under conservation plan
August 31, 2010	33% of irrigated cropland (~100,000 acres) under conservation plan
August 31, 2011	37% of irrigated cropland (~110,000 acres) under conservation plan
August 31, 2012	40% of irrigated cropland (~120,000 acres) under conservation plan
August 31, 2013	43% of irrigated cropland (~130,000 acres) under conservation plan
August 31, 2014	47% of irrigated cropland (~140,000 acres) under conservation plan
August 31, 2015	50% of irrigated cropland (~150,000 acres) under conservation plan

Methods of Assistance and Estimated Costs

- Short Term – 2010
 - Technical Assistance - \$475,000
 - Cost Share Assistance - \$2.7 Million
 - Information/Education - \$275,000
 - Monitoring/Assessment - \$750,000
 - Total \$4.2 Million
- Long Term – 2015
 - Technical Assistance - \$500,000
 - Cost Share Assistance - \$3 Million
 - Information/Education – \$300,000
 - Monitoring/Assessment - \$800,000
 - Total \$4.6 Million

Estimated v. Actual Investment

Estimated since 2006 – Short term milestone

Technical and Cost Share Assistance	Information/Education	Monitoring/Assessment	Total
\$3,175,000	\$275,000	\$750,000	\$4.2 Million

Actual since 2006

Type of Assistance	Federal	Non Federal	Total
Technical and Cost Share Assistance	\$532,516	\$200,000	\$732,516
Information/Education	\$270,949	\$203,751	\$474,700
Monitoring/Assessment	\$430,650	\$319,497	\$750,147
Total	\$1,234,115	\$723,428	1,957,363

Total Ag Investment (1999 - Present)

Type of Assistance	Federal	Non Federal	Total
Technical and Cost Share Assistance	\$3,068,813*	\$1,714,730*	\$4,823,543*
Information/Education	\$467,519	\$272,165	\$739,684
Monitoring/Assessment	\$525,647	\$383,770	\$909,407
Total	\$4,061,979*	\$2,370,665*	\$6,472,634*

*Not including 2 GLO Projects that could not be located

Sources of Funding and Contributions to Date

- SB 503 Water Quality Management Plan Program (TSSWCB)
- Clean Water Act Section 319(h) Program (TSSWCB)
- Environmental Quality Incentive Program (NRCS)
- Coastal NPS Program Grants (GLO)
- Coastal Management Program (GLO)
- State Revolving Fund (TWDB)
- Agricultural Water Conservation Program (TWDB)
- Targeted Watershed Program (EPA)
- Texas Clean Rivers Program

Technical and Cost Share Assistance Programs

- TSSWCB
 - FY99 – WQMP Implantation Assistance in the Arroyo Colorado Watershed – Total: \$2,047,520
 - FY02 – Implementation Support Project in the Arroyo Colorado Watershed – Total: \$577,307
 - FY05 – WQMP Implementation Assistance in the Arroyo Colorado Watershed – Total: \$1,466,200
 - FY 09 – Implementing the Arroyo Colorado Watershed Protection Plan by Providing Technical and Financial Assistance to Reduce Agricultural Nonpoint Source Pollution - \$732,516

Soil Samples

Year	Willacy	Cameron	Hidalgo	Total
02 through 08				2,974
08-09	141	67	167	375
09-10	128	282	155	565
10-11	80	94	154	328
Total	349	443	476	4,242

Cameron County National Agricultural Statistics Service (NASS)

Total Cameron County

Cropland

- 941 farms
- 226,132 ac

Irrigated

- 714 farms
- 101,093 ac

Total County

- 1,241 farms
- 349,476 ac

ACW in Cameron County - LULC

Cropping

- Generic – 861 ac
- Row Crops – 140,119 ac
- Orchard – 2,253 ac
- Sugarcane – 10,925 ac
- Total Crop in ACW – 154,158 ac
- Percentage of Cropland in Cameron County – 68%

Range and Grassland

- Permanent Pasture – 482 ac
- Range/Brush – 45,210 ac
- Range/Grassland – 8,562 ac
 - Total Range in ACW – 54,254 ac

Urban

- Total: 33,459 ac

Other

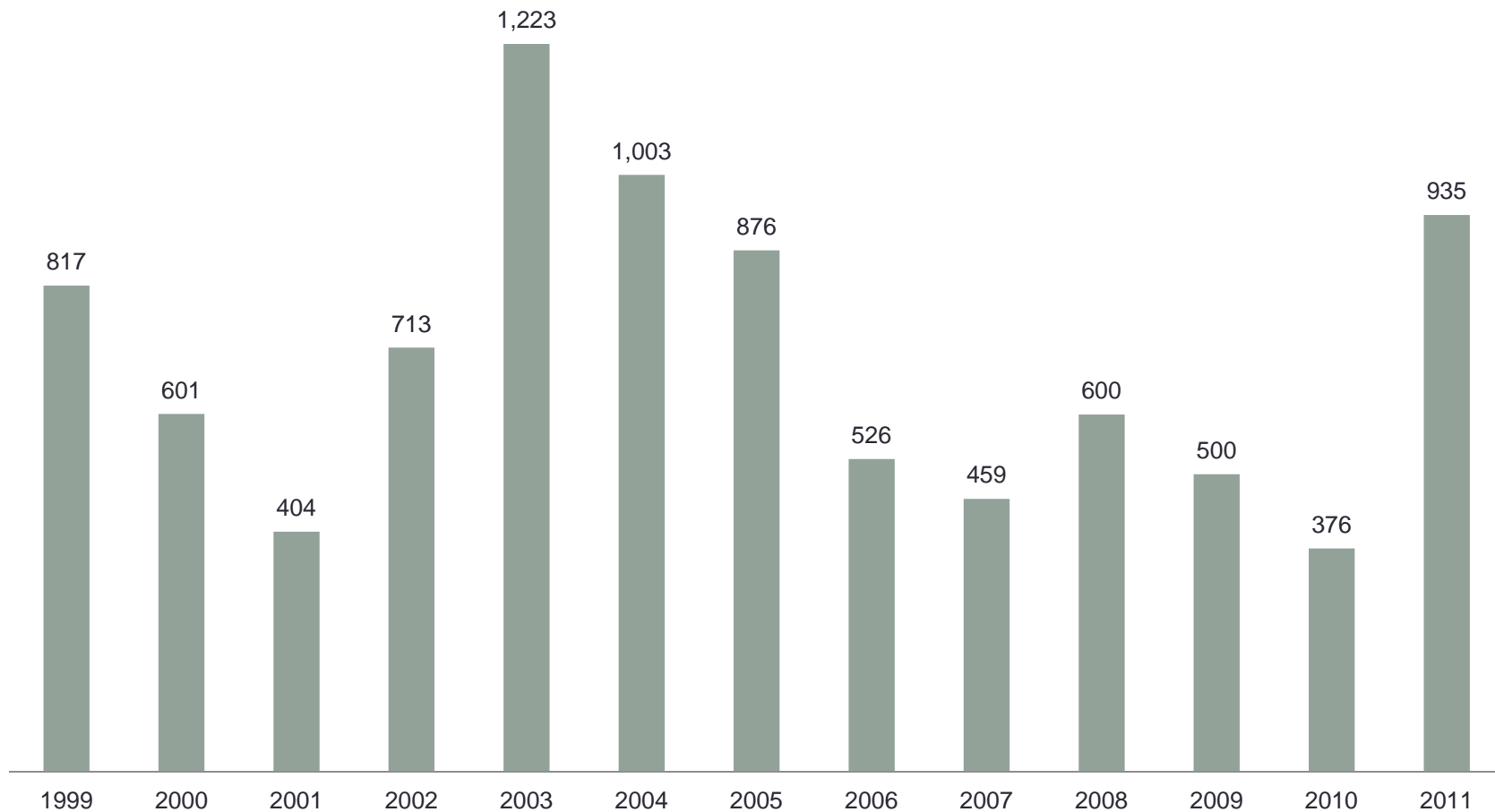
- 36,822 ac

Total Watershed in County

- 278,693 ac
- 34% of County

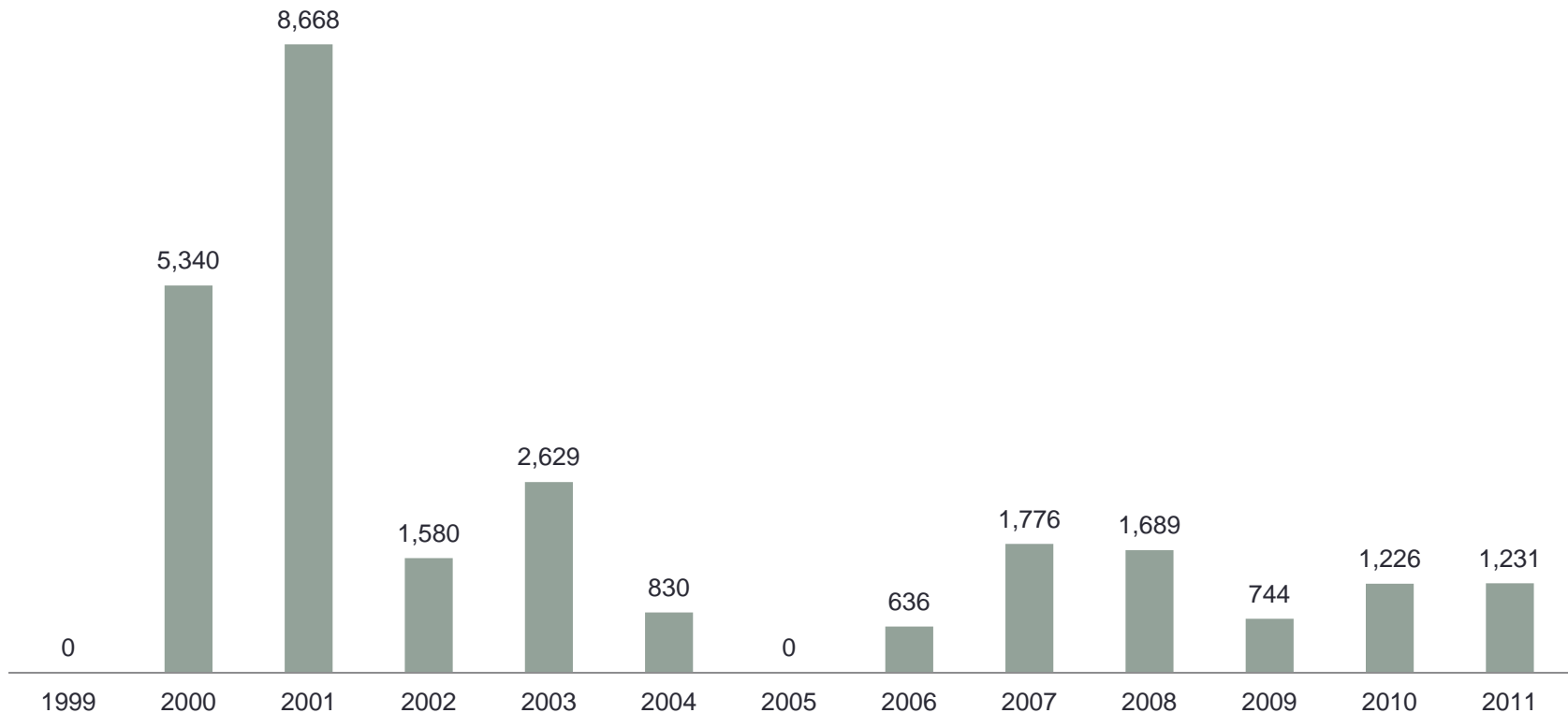
SB 503: Cameron County

Totals: 9,031.2 Acres under 286 WQMPs – 4% of Cropland



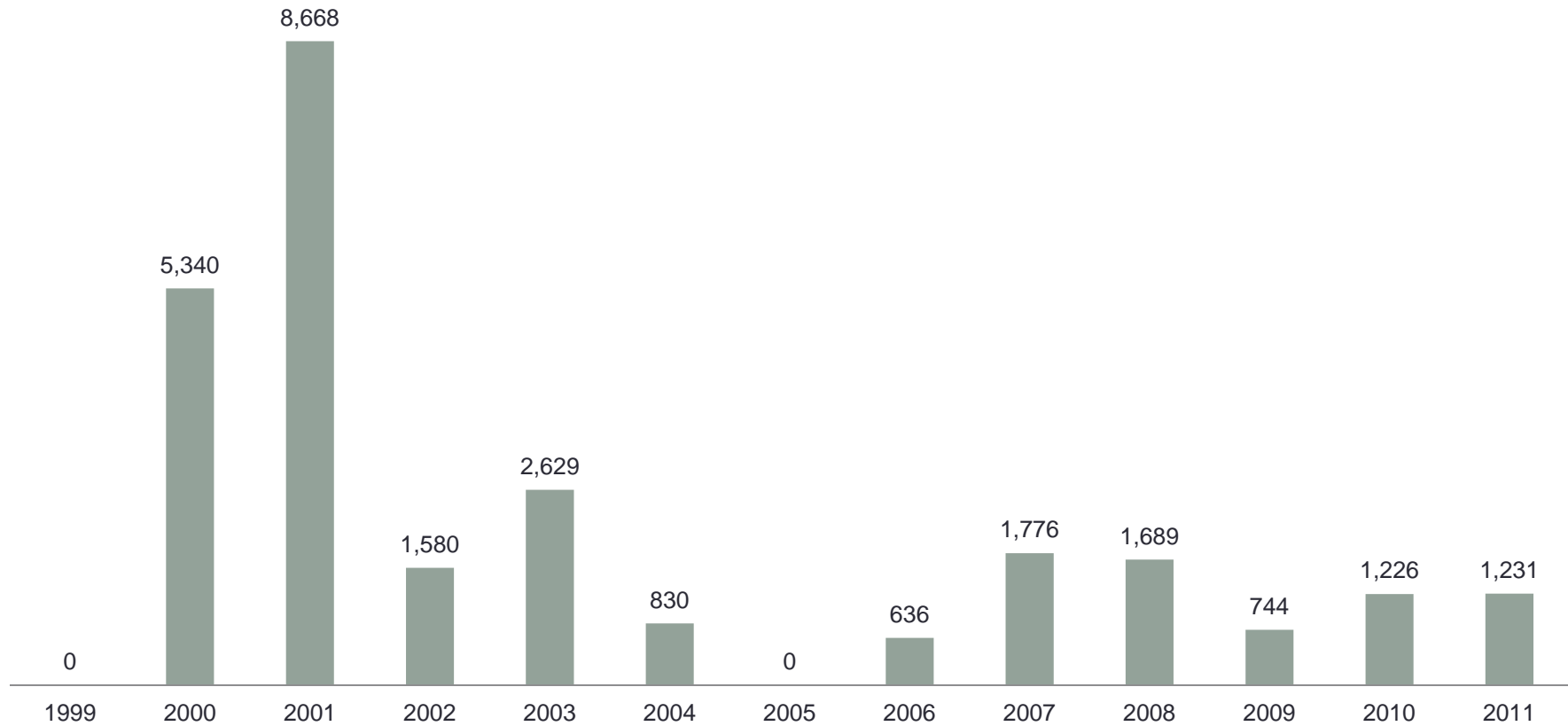
319(h): Cameron County

Totals: 26,349.03 Acres under 290 WQMPs – 12% of Cropland



Total Acres in Cameron County

Totals: 35,380 Acres under 576 WQMPs – 16% of Cropland



Willacy County National Agricultural Statistics Service (NASS)

Total Willacy County

Cropland

- 277 farms
- 196,362 ac

Irrigated

- 103 farms
- 18,516 ac

Total County

- 352 farms
- 338,048 ac

ACW in Willacy County LULC

Cropping

- Generic – 0 ac
- Row Crops – 17,210 ac
- Total Crop in ACW – 17,210 ac
- Percentage of cropland in Willacy Co. – 9%

Range and Grassland

- Permanent Pasture – 2 ac
 - Range/Brush – 1,366 ac
 - Range/Grassland – 172 ac
- Total in ACW: 1,540 ac

Urban

- Total: 60 ac

Other

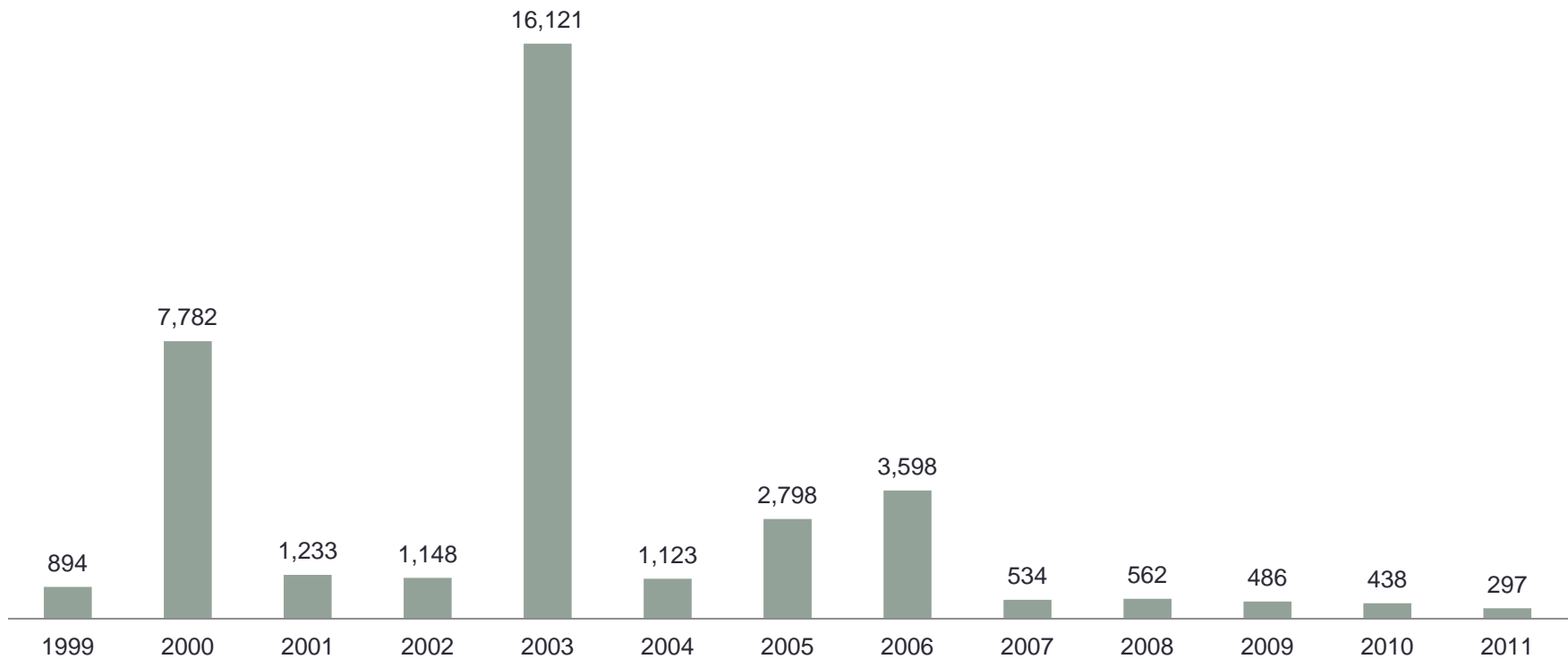
- 1,122 ac

Total Watershed in County

- 19,932 ac
- 4% of County

SB 503: Willacy County

Totals: 37,012 Acres under 224 WQMPs – 19% of Cropland



Hidalgo County National Agricultural Statistics Service

Total Hidalgo County

Cropland

- 1,419 farms
- 404,321 ac

Irrigated

- 1,051 farms
- 169,322 ac

Total County

- 2,151 farms
- 722,582 ac

ACW in Hidalgo County LULC

Cropping

- Generic – 1,401 ac
 - Row Crops – 56,879 ac
 - Orchard – 1,244 ac
 - Sugarcane – 6,452 ac
 - Total Crop in ACW – 65,976 ac
 - Percentage of cropland in Hidalgo Co. – 16%
- Urban
- Total: 28,207 ac
- Other
- 3,997 ac

Range and Grassland

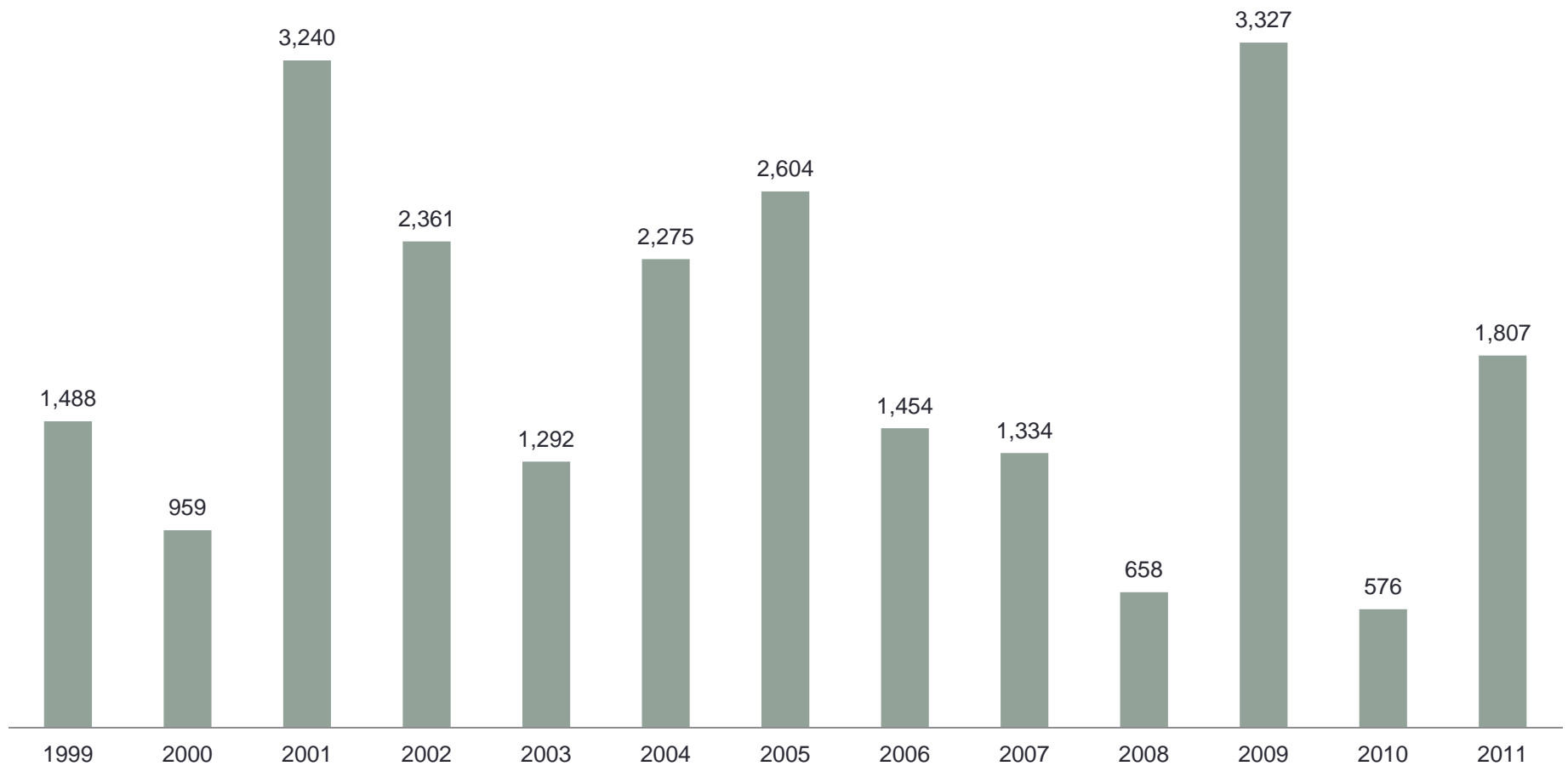
- Permanent Pasture – 257 ac
 - Range/Brush – 17,688 ac
 - Range/Grassland – 3,334 ac
- Total in ACW: 21,279 ac

Total Watershed in County

- 119,459 ac
- 11% of County

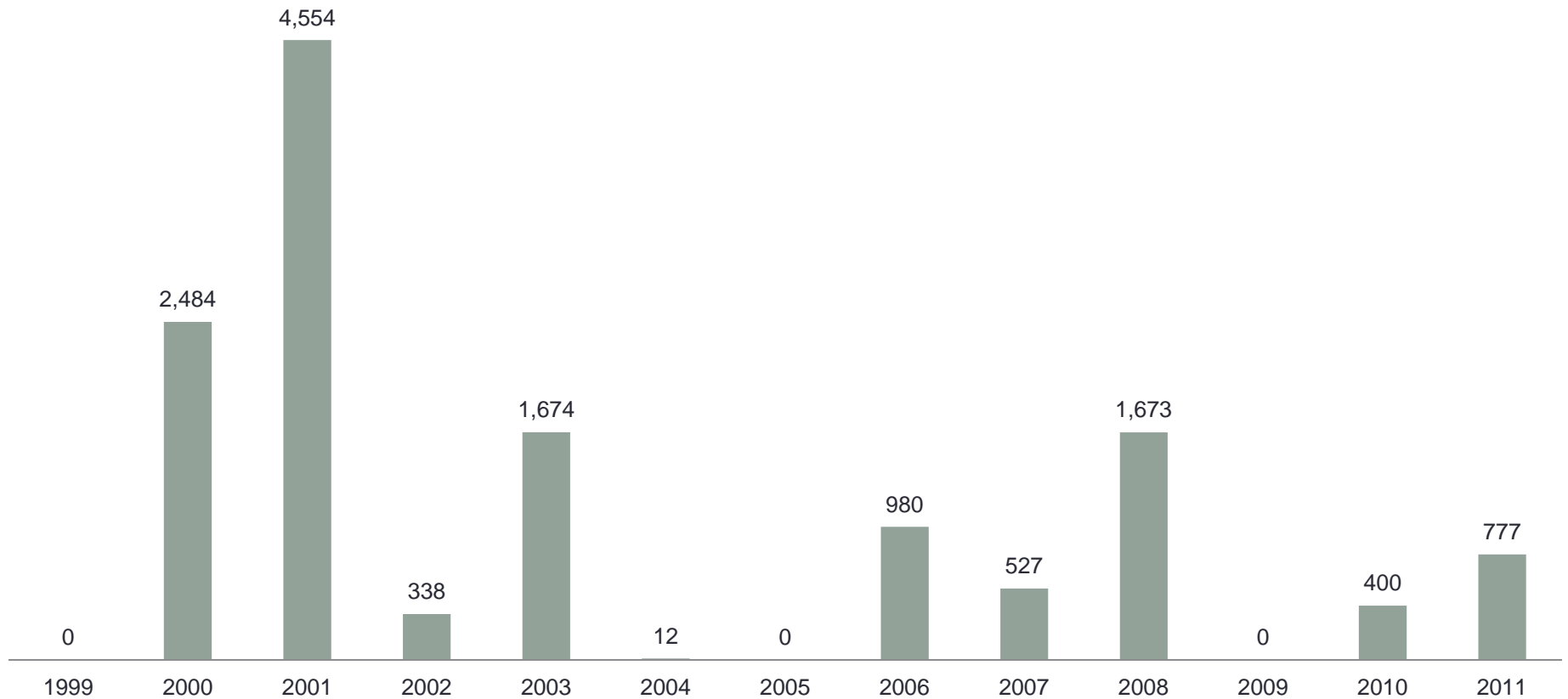
SB 503: Hidalgo County

Totals: 23,377.5 Acres under 268 WQMPs – 6% of Cropland



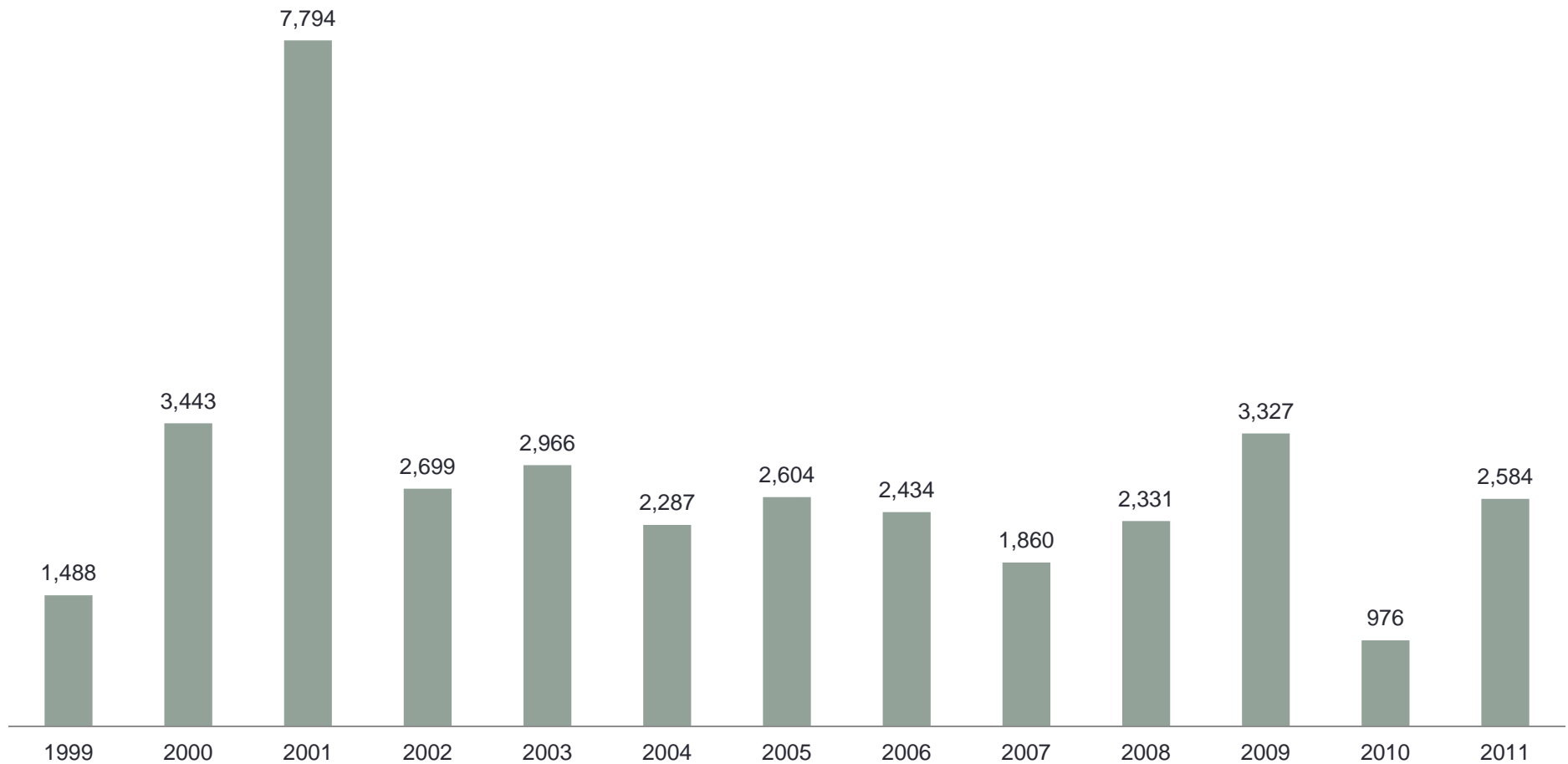
319(h): Hidalgo County

Totals: 13,417.8 Acres under 122 WQMPs – 3% of Cropland



Total Acres in Hidalgo County

Totals: 36,795.3 Acres under 390 WQMPs – 9% of Cropland



Arroyo Colorado Watershed LULC

Cropping

- Generic – 2,262 ac
- Row Crops – 214,208 ac
- Orchard – 3,497 ac
- Sugarcane – 17,377
- Total Crop in ACW – 237,344 ac
- Percentage of total cropland in three Counties – 34%

Range and Grassland

- Permanent Pasture – 741 ac
- Range/Brush – 64,264 ac
- Range/Grassland – 12,068 ac
 - Total in ACW: 77,073 ac

Urban

- Total: 61,672 ac

Other

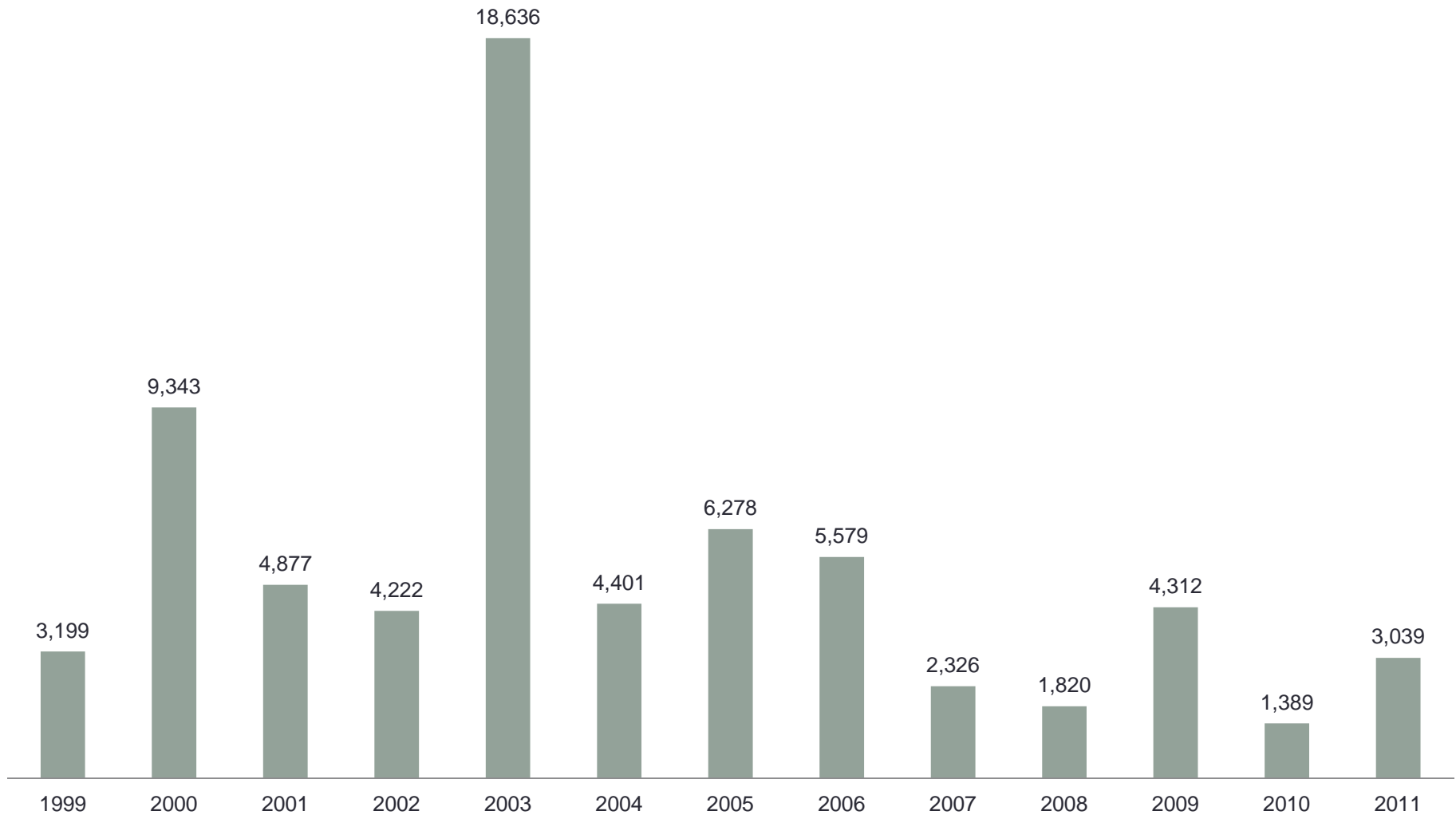
- 41,939 ac

Total Watershed

- 418,028 ac
- 18% of three counties

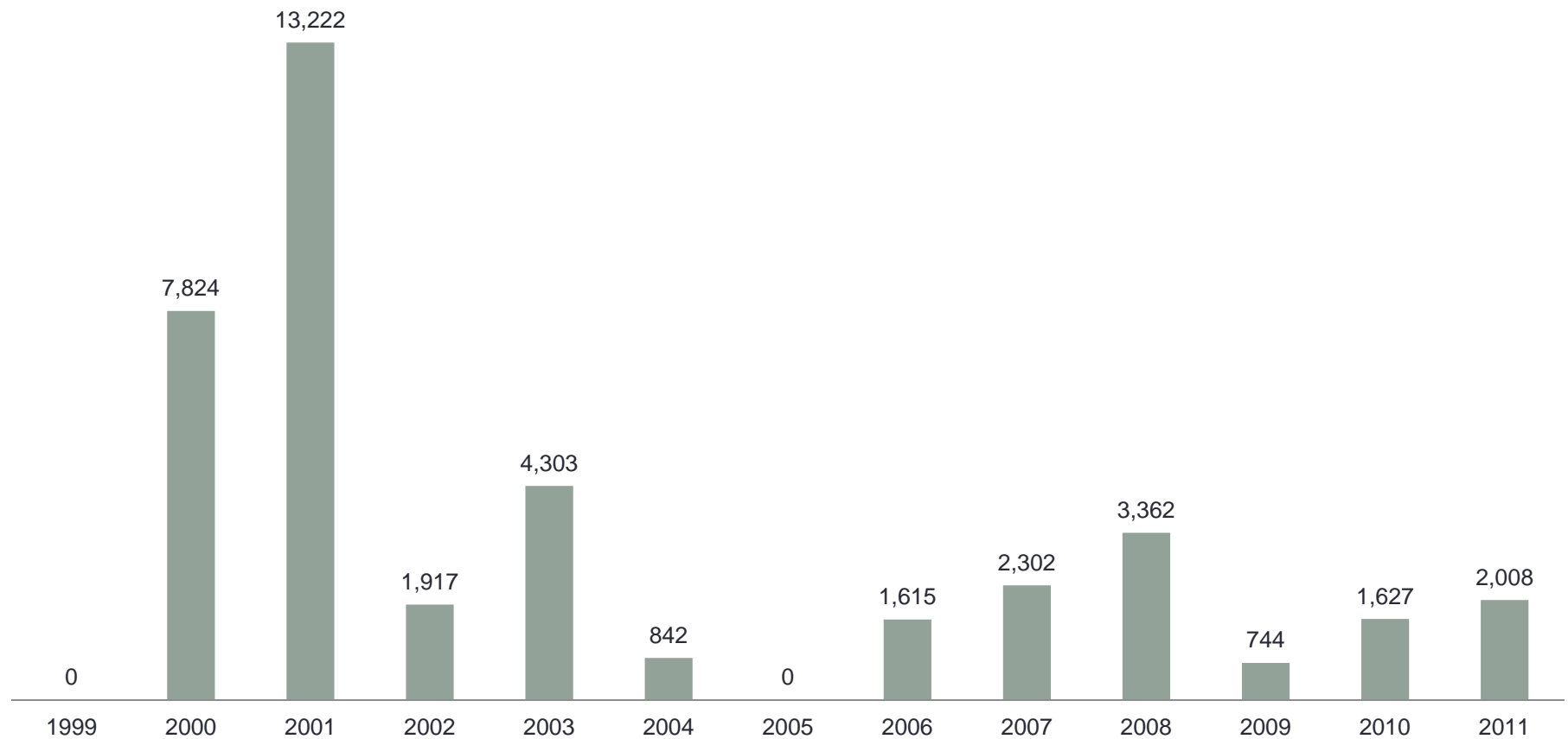
SB 503: Cameron, Willacy and Hidalgo Counties

Totals: 69,421 Acres under 778 WQMPs – 10% Total of Cropland



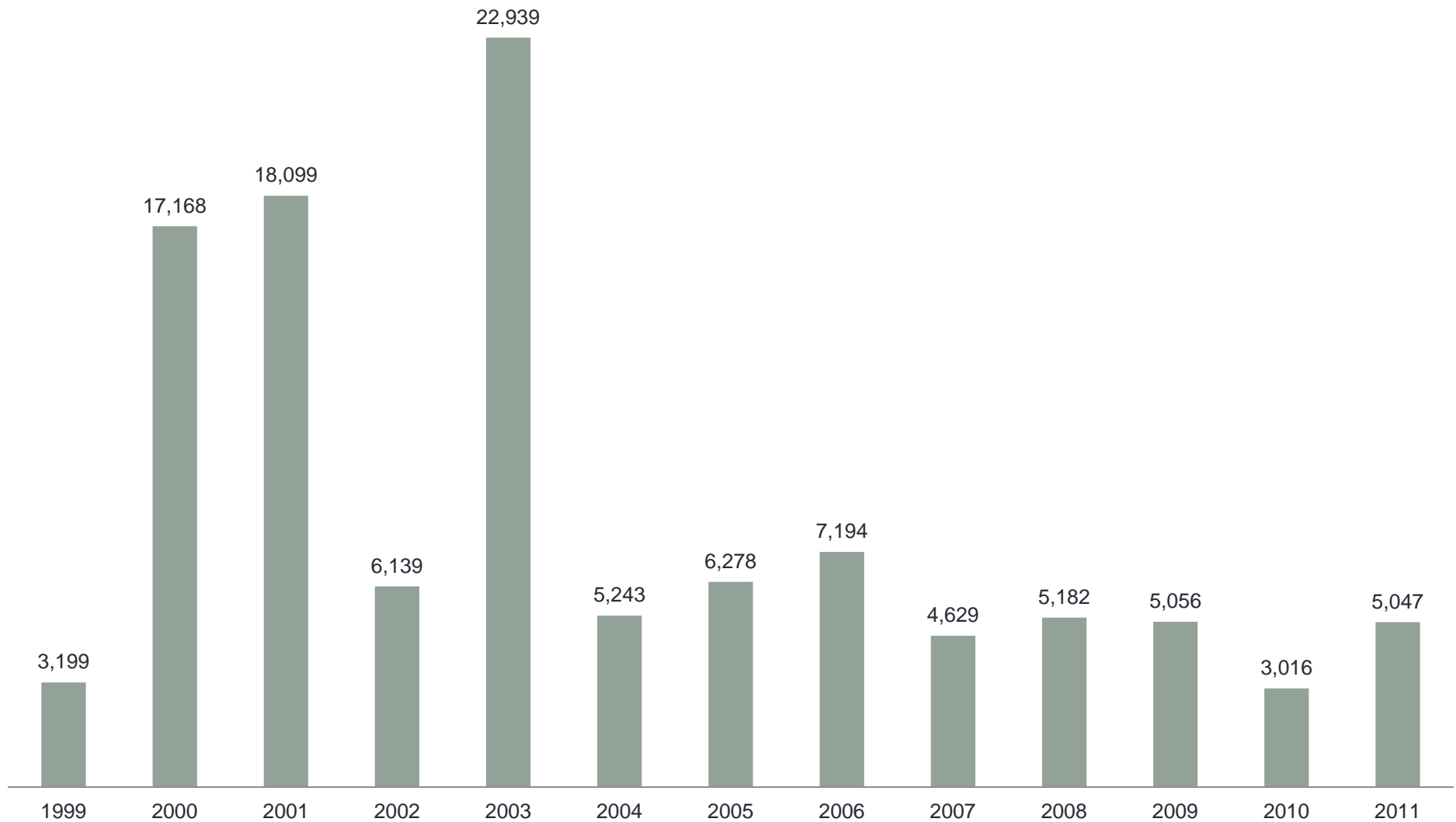
319(h): Cameron and Hidalgo Counties

Totals: 39,767 Acres under 412 WQMPs – 6% of Total Cropland



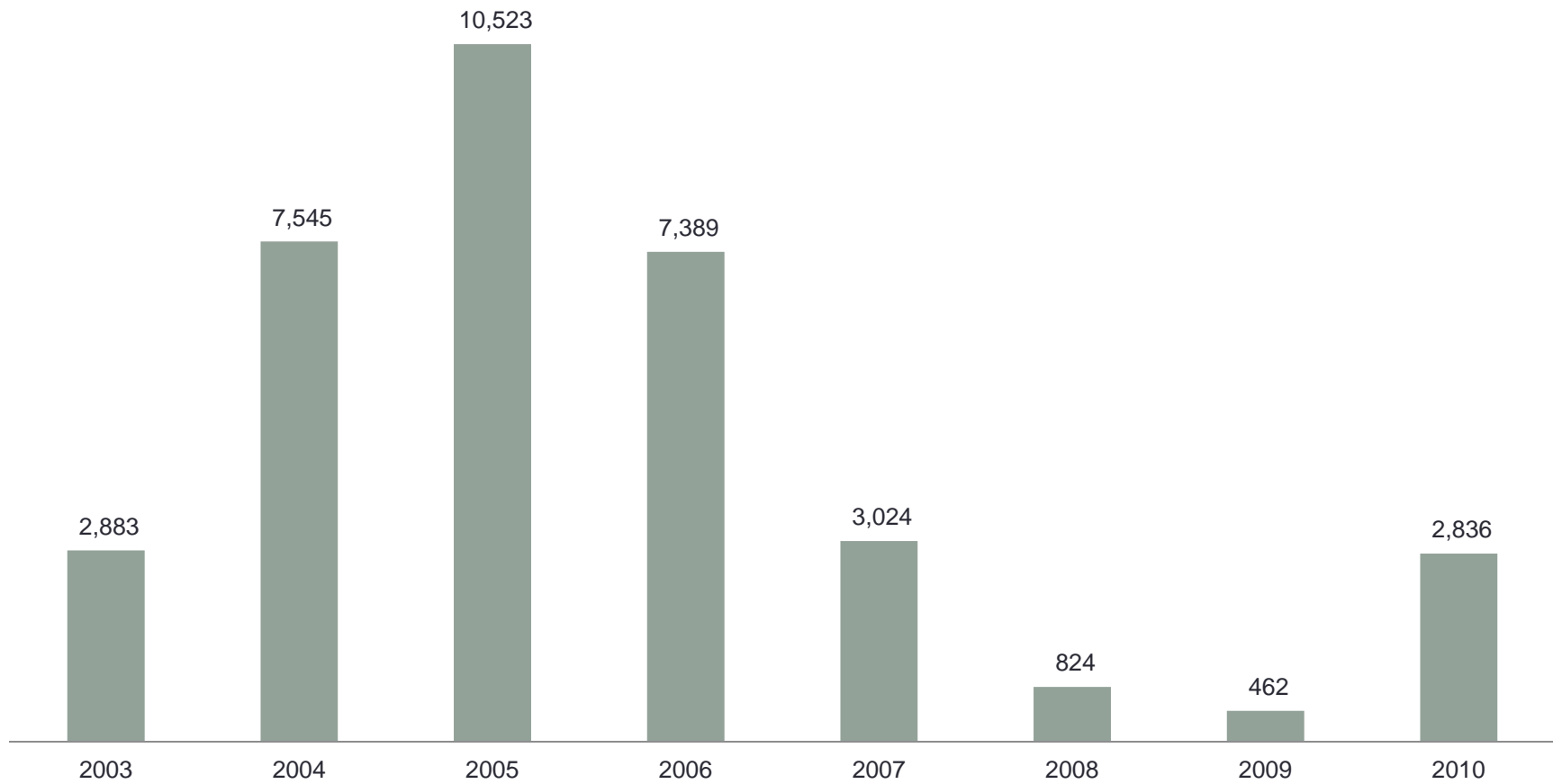
Totals in Cameron, Willacy and Hidalgo Counties

Totals: **109,188** Acres under 1,190 WQMPs – 16% of Total Cropland



EQIP

Total: 35,486 Acres under 475 Contracts



Information/Education Programs

- TSSWCB
 - FY05 - Education of Best Management Practices in the Arroyo Colorado Watershed – Total: \$172,373
 - FY10 – Implementing Educational Components of the Arroyo Colorado Watershed Protection Plan Focused on Agricultural Nonpoint Source Pollution – Total: \$337,634
- GLO
 - FY09 - Public Service Announcements for the Arroyo Colorado Watershed – Total: \$53,034
 - FY09 – Pesticide Education in the Coastal Zone of the Arroyo Colorado Watershed – Total: \$84,032
- EPA
 - FY08 – Integrated Farm Management Education Program – Total: \$92,611

Monitoring/Assessment Programs

- TSSWCB
 - FY02 – SWAT Model Simulation of the Arroyo Colorado – Total: \$159,260
 - FY06 – Arroyo Colorado Agricultural Nonpoint Source Assessment – Total: \$750,147

Implementation Milestones

Date	Management Measure
August 31, 2005	17% of irrigated cropland (~50,000 ac) under conservation plan
September 1, 2005	Initiate FY05 Education and WQMP Implementation Projects
November 2005	Submit proposal to TSSWCB for FY06 319 Funding for Monitoring
January 2006	Complete DRAFT Watershed Protection Plan
February 2006	Submit proposal entitled "Timing/Location Impacts of Nutrient & Irrigation Practices in an Urban/Rural Watershed" to the USDA-CSREES for funding
March 2006	Finalize FY06 Monitoring Proposal for Submittal to EPA if selected for funding
September 1, 2006	Initiate FY06 Monitoring Project if funded
November 2007	Submit proposals to TSSWCB for FY08 319 Funding for Education and WQMP Implementation Projects
March 2008	Finalize FY08 Education and WQMP Implementation Project Proposals for Submittal to EPA if selected for funding
August 31, 2008	Finalize work on FY05 Education Project & WQMP Implementation Project
September 1, 2008	Initiate FY08 Education Project & WQMP Implementation Project if funded
November 2008	Submit proposal to TSSWCB for FY09 319 Funding for Monitoring
March 2009	Finalize FY09 Monitoring Proposal for Submittal to EPA if selected for funding
August 31, 2009	Finalize work on FY06 Monitoring Project
September 1, 2009	Initiate FY09 Monitoring Project if funded
August 31, 2010	33% of irrigated cropland (~100,000 ac) under conservation plan
November 2010	Submit proposals to TSSWCB for FY11 319 Funding for Education and WQMP Implementation Projects
March 2011	Finalize FY11 Education and WQMP Implementation Project Proposals for Submittal to EPA if selected for funding
August 31, 2011	Finalize work on FY08 Education Project and WQMP Implementation Project if funded
September 1, 2011	Initiate FY11 Education and WQMP Implementation Projects if funded
November 2011	Submit proposal to TSSWCB for FY12 319 Funding for Monitoring
March 2012	Finalize FY12 Monitoring Proposal for Submittal to EPA if selected for funding
August 31, 2012	Finalize work on FY09 Monitoring Project if funded
September 1, 2012	Initiate FY12 Monitoring Project if funded
August 31, 2014	Finalize work on FY11 Education Project and WQMP Implementation Project if funded
August 31, 2015	Finalize work on FY12 Monitoring Project if funded
August 31, 2015	50% of irrigated cropland (~150,000 ac) under conservation plan

FY12 Proposal for Monitoring

- Paired Watershed Study?



Recommendations for Future Programs

What do we need?

- More educational program
- More technical assistance programs
- Other types of monitoring programs

Survey Questions to conduct at programs for future adoption recommendations??

- Specific questions in surveys to find out what we could do to receive higher adoption rates of BMPs?

Ag Success Story for Newsletter

- Acres
- Monitoring Results
- Money brought to the region
- Others?



Questions?

<http://arroyocolorado.org/>

<http://twri.tamu.edu/>