



State Aquatic Nuisance Species (ANS) Program Summary for Colorado Legislators per SB 08-226



Colorado Parks and Wildlife January 2016

The Colorado Parks and Wildlife's (CPW) Aquatic Nuisance Species (ANS) Program has concluded another successful season protecting the state's water resources and infrastructure from harmful ANS. While western states such as Kansas, Texas, South Dakota, North Dakota and Arizona, that do not have aggressive ANS programs, continue to become infested with zebra or quagga mussels, Colorado has prevented the introduction of these awful invasive species due to the diligent efforts of watercraft inspection and decontamination staff, as well as monitoring, education and enforcement actions. In 2015, CPW intercepted a record number of infested watercraft from out of state and decontaminated them prior to allowing them into state waters. CPW's ANS Program, along with their partners, is critical to maintaining opportunities for recreation, preserving natural resources and protecting water supply and delivery infrastructure for municipal, industrial and agricultural use.

Prior to the July 1, 2011 merger of the former Division of Wildlife (CDOW) and Colorado State Parks (Parks), the two ANS Programs operated independently per SB08-226. For the purpose of this report, the activities occurring from 2008-2011 are attributed to the former CDOW and Parks agencies independently. Activities occurring in 2012-2015 boating seasons are attributed to CPW.

Background

Zebra and/or quagga mussel larvae were identified in eight reservoirs in Colorado in 2008 as a result of a multi-year statewide sampling effort conducted by the CDOW, in partnership with Parks, the U.S. Fish & Wildlife and the U.S. Bureau of Reclamation. Zebra mussels, and their close relative quagga mussels, are highly invasive aquatic species that negatively impact plankton communities, fisheries, and water based recreation; in addition to threatening our water storage and distribution systems for municipal, industrial and agricultural use.



Quagga mussels covering the shoreline at Lake Mead in Nevada

The State Aquatic Nuisance Species (ANS) Act was signed into law May 2008. The Act defines ANS as exotic or nonnative aquatic wildlife or any plant species that have been determined to pose a significant threat to the aquatic resources or water infrastructure of the state. It makes it illegal to possess, import, export, ship, transport, release, plant, place, or cause an ANS to be released. The Act allocated funding to ANS programs in both the former CDOW and Parks. It provides authority for CPW to certify individuals as authorized agents qualified peace officers to inspect, and if necessary, decontaminate or quarantine watercraft for ANS. It also provides authority for trained authorized agents to inspect and decontaminate watercraft for ANS.

The Parks Board passed regulations required by the Act on February 20, 2009. The rules require mandatory watercraft inspection, and if necessary, decontamination of all boats coming in from out of state, leaving known positive waters in Colorado, and those boats entering high-risk water where inspections and decontaminations are required by the managing agency. The rules set the standard for watercraft inspection, decontamination, impoundment, sampling, monitoring, identification and reporting. This year updated regulations were adopted by the Parks and Wildlife Commission. The updates include requiring boat operators to clean, drain and dry their

own watercraft and exempting paddle boards from mandatory inspections. Changes also reflect best management practices for decontamination and update organizational structure resulting from the merger of parks and wildlife.

The CPW Invasive Species Coordinator began on July 1, 2008. The CDOW internally reallocated resources to create a fulltime position to coordinate invasive species activities statewide. The Invasive Species Coordinator oversees implementation of the State Zebra and Quagga Mussel Management Plan (ZQM Plan), along with a variety of other invasive species management duties, such as noxious weed and forest pest coordination. The backbone of the ZQM Plan includes containment and prevention through watercraft inspection and decontamination, sampling and monitoring, education/outreach, communications and information, and applied research. CPW provides ANS support to all waters of the state, and to all inspection stations, regardless of jurisdiction. Services provided include site-specific planning, training/certification, watercraft inspection and decontamination, quality control assessments, data collection development and support, law enforcement support, educational materials, workshops and conferences, sampling/monitoring, ANS identification and cost-share opportunities.

The ANS Act authorized 7 FTE to State Parks for ANS. One FTE was designated the ANS Program Coordinator for Parks. This position was moved to the Aquatic Section in the merged CPW Invasive Species Program. Parks hired 6 additional full-time employees to oversee watercraft inspection, decontamination and education at select Parks. Only 3 Parks FTE remain active today, as the other positions have been abolished per budget reductions.

Program Goal

The goal of the program is to protect the state's natural resources, outdoor recreation and water supply systems through prevention of new introductions and reduce the spread of costly invasive species, specifically ANS such as zebra or quagga mussels, in Colorado.

Zebra and Quagga Mussels

There are no positive waters for zebra mussels in the state. The only positive water for quagga mussels in Colorado is Pueblo Reservoir. There has never been an adult zebra or quagga mussel found in Colorado.

Previous Detections of Zebra and Quagga Mussels in Colorado

- Pueblo Reservoir State Park tested positive for zebra or quagga mussel larvae (veligers) in 2007, 2008, 2009 and 2011.
- Granby Reservoir, Grand Lake, Shadow Mountain Reservoir, Willow Creek Reservoir, Tarryall Reservoir and Jumbo Reservoir all tested positive for one zebra or quagga mussel veliger in 2008. There have been no verified detections at any of these waters since 2008.
- Blue Mesa Reservoir tested positive for quagga mussel eDNA in 2009, 2011 and 2012 by the U.S. Bureau of Reclamation.

De-Listing Positive Waters in January 2014

Colorado adopted the western regional standards for listing and de-listing water bodies for zebra and quagga mussels, as documented in the *Western Regional Panel's Building Consensus Effort's* August 2013 Denver meeting summary document. In doing so, Colorado de-listed Granby, Grand Lake, Shadow Mountain, Willow Creek, Tarryall, Jumbo and Blue Mesa in January 2014. Therefore, the only positive water for quagga mussels is Pueblo Reservoir and there are no positive waters for zebra mussels in Colorado.

Additional Aquatic Nuisance Species in Colorado

- Eurasian watermilfoil (EWM) – Known to many Front Range locations and the Rio Grande. The Colorado Dept. of Agriculture requires management per the State Weed Act. Currently EWM is

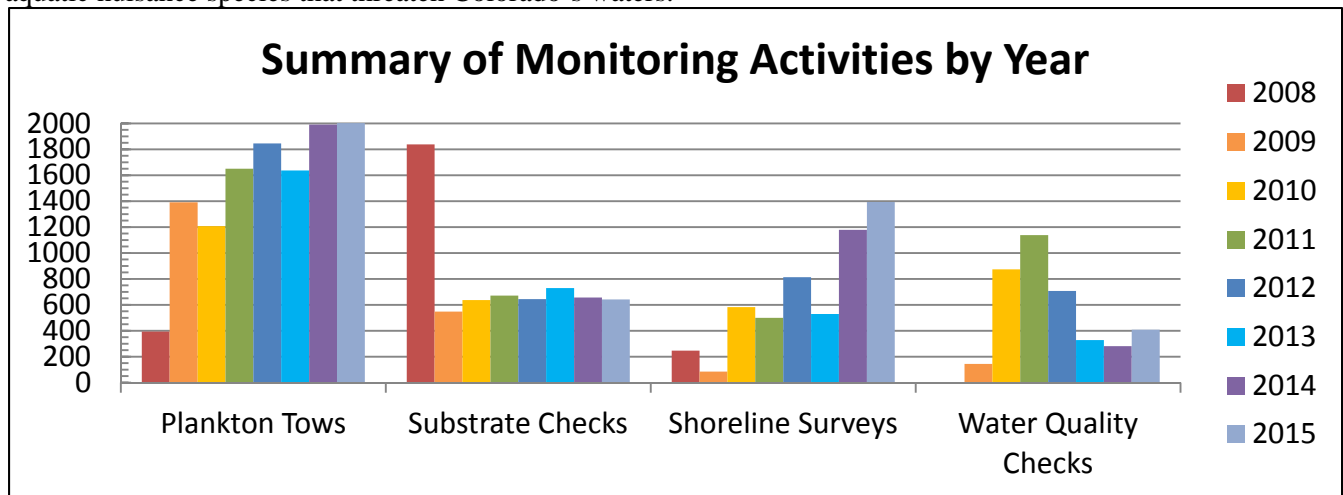
controlled with herbicides at a few Parks and other locations. Watercraft inspection and decontamination containment programs are in place at a few locations.

- New Zealand Mudsnails (NZMS) – First detected in Colorado in 2004. Angler education campaign is in place to minimize spread. Snails continue to be found in new locations annually. In 2013, they were discovered in Fountain Creek in Colorado Springs. Recently in 2015, NZMS was discovered at Chatfield Reservoir State Park.
- Rusty Crayfish – Three known locations are being mechanically controlled through removal efforts. Regulation prohibits the live transport from known locations. Education and information is ongoing. There were no new detections of rusty crayfish in 2013.
- Waterflea (*Daphnia lumholtzi*) – First detected by CPW in Colorado in 2013. Waterfleas are now known to be present in 24 Colorado water bodies and Pueblo Hatchery. Of those, nine were discovered in 2015. CPW is currently working with the Fish Health Board to evaluate this species.

2015 Program Activities: Sampling/Monitoring

CPW has sampled 584 “at-risk” waters for aquatic invasive species over the last ten years. It was through this sampling program that invasive mussel veligers were first detected in Colorado. While CPW ANS staff monitors the state’s public waters for numerous invasive plants and animal species, the focus of sampling is on early detection of zebra and quagga mussels. As such, the state follows a three-tier sampling protocol targeting the three life cycles of the zebra or quagga mussel: (1) conducting plankton tows to find the veligers, (2) deploy and check substrates to find the juvenile “settlers” or attached adult mussels and (3) conduct surveys along the shoreline and existing structures for settled juveniles or attached adult mussels. The state requires three steps to identify, verify and confirm identification of zebra or quagga mussel veligers (1) visual analysis of plankton tows using a cross-polarized light microscope (2) DNA verification utilizing polymerase chain reaction [PCR] and (3) DNA confirmation utilizing gene sequencing to confirm genus and species.

In 2015, crews sampled 196 standing and approximately 22 flowing waters statewide. In addition to the sampling efforts performed by Colorado Parks and Wildlife, the National Park Service contributed 19 plankton samples. A summary of the sampling efforts by Colorado Parks and Wildlife can be seen in the graph below. Substrate and plankton tow surveys remained consistent with the previous year. Shoreline surveys again saw a spike in 2015 resulting from full shoreline inventories of Chatfield Reservoir and many flowing waters within the state. Water quality checks also saw an increase as the program continues to expand its habitat suitability studies to additional aquatic nuisance species that threaten Colorado’s waters.



Watercraft Inspection and Decontamination (WID)

CPW coordinates the vast network of WID stations that are operated by CPW, the National Park Service, Larimer County, various municipalities and private industry locations including businesses, concessioners, marinas, clubs and private lakes. In total, the state has collectively performed over **2.7 million inspections** and **46,628 decontaminations** since 2008.

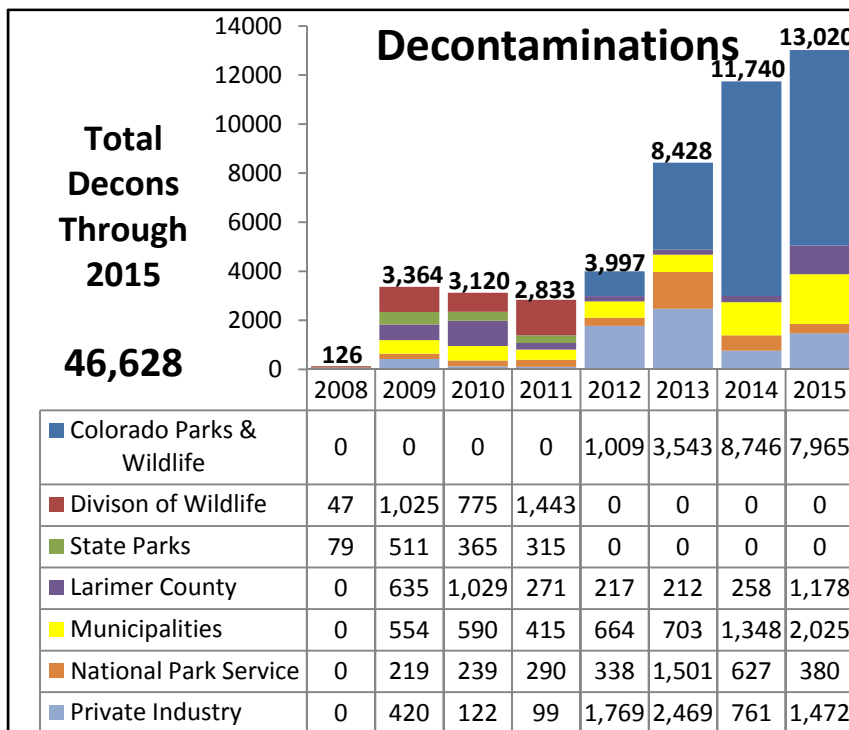
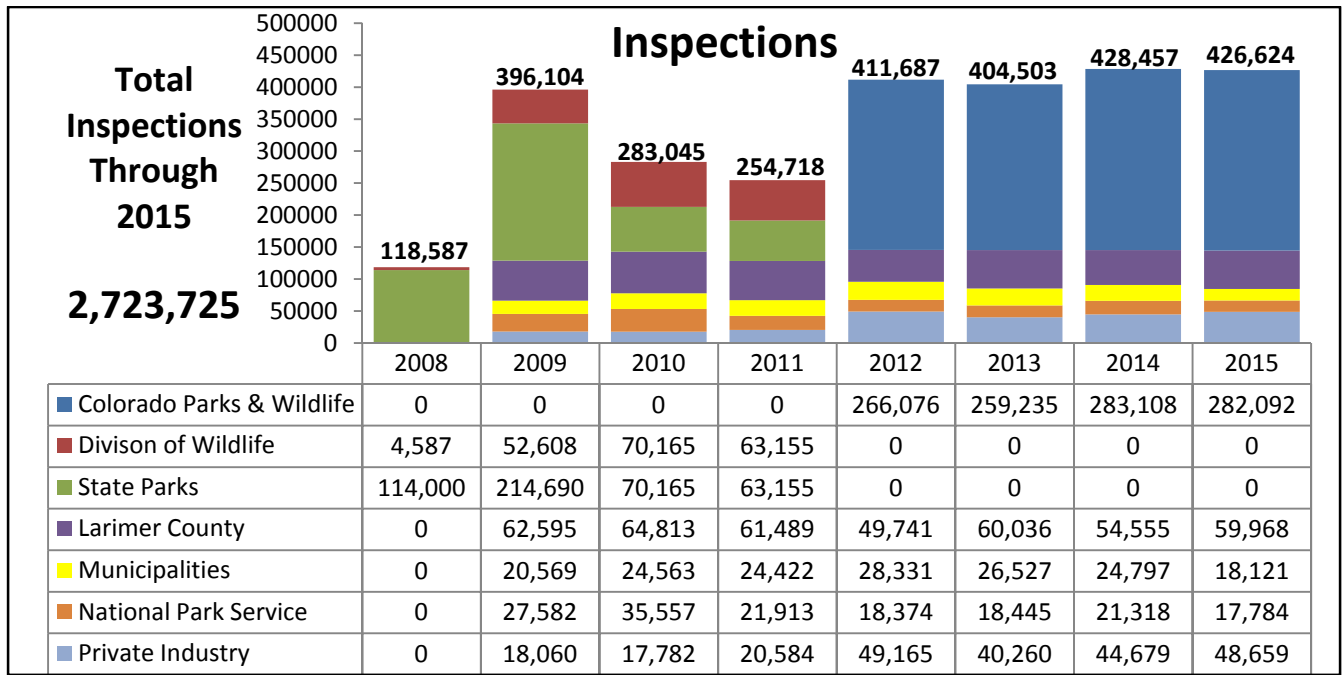
Per the State ANS Regulations, trailered watercraft must submit to an inspection, and decontamination if needed, prior to entrance in Colorado’s waters following boating out of state or boating on a positive or suspect water. Boaters are also required to submit to an inspection prior to entering a water body where inspections are required by the managing agency. All persons performing inspections and/or decontaminations in Colorado must be certified by CPW.

CPW and their partners taught 67 watercraft inspection and decontamination certification courses in 2015 including an online re-certification program for experienced inspectors and decontaminators, for a total of 635 trainings since the program’s inception. In addition to the online course for experienced staff, the Invasive Species Program within CPW also maintained two other new specialized courses: one for trainers, and one in advanced decontamination. CPW certified 657 individuals this year, for a total of 5051 certifications since the training program’s inception. Both the training and the inspections focus on educating the boaters.

A committee consisting of CPW Leadership Team representatives evaluated and improved field procedures this year to account for waters positive for ANS other than zebra or quagga mussels. The team refined procedures to improve customer service and resource protection at waters with inspection and decontamination stations. As such, 71 locations were authorized to perform watercraft inspection and decontamination. Of the 71 total stations, Lake Pueblo State Park was operated as a containment operation for quagga mussels, 18 locations operated as other ANS containment and 52 locations operated as prevention locations. Prevention locations are those that are negative for all ANS or are not located at a waterbody (e.g. offices or marine dealers). The focus of the containment program is to inspect watercraft leaving the lakes/reservoirs to prevent boats from moving ANS overland into currently uninfested areas. Authorized Locations for WID are operated by a variety of entities, including CPW, the National Park Service, Larimer County, municipalities, marinas, private concessioners, private clubs and marine dealers.

Number of Authorized Locations by Entity								
Entity Type	2008	2009	2010	2011	2012	2013	2014	2015
Colorado Parks & Wildlife					41	40	40	37
State Parks	24	28	28	28				
Division of Wildlife	5	160	19	19				
Larimer County	0	2	2	2	2	2	2	2
Municipalities	3	7	11	9	8	8	8	8
National Park Service	0	1	1	1	1	1	1	1
Private Industry	3	11	51	30	21	23	24	23
Total:	35	209	112	89	73	74	75	71

A total of 426,624 inspections and 13,020 decontaminations were performed in Colorado in 2015. A summary of annual inspection numbers and a summary of inspections and decontamination performed by entity type each year can be found on the following page.



There continues to be a large increase in the number of decontaminations performed as a direct result of CPW adapting to mitigate new threats. Research publications indicate zebra or quagga mussel veligers can survive up to 27 days in standing water on watercraft which increased the need to decontaminate parts of watercraft which can't be drained (e.g. ballast tanks). Another factor increasing Colorado's need for decontamination is the increase in mussel infested waters in other states, including Lake Powell and several northern Texas State Parks, and Kansas reservoirs. In the last year, South Dakota, North Dakota, Nebraska, Arizona and other states had new waters infested with zebra or quagga mussels because of the lack of prevention WID programs. Lastly, waters in close proximity to, or positive

for, NZMS, EWM or invasive waterflea infestations perform more decontaminations to limit their spread in state. CPW and their partners revised mandatory standing water decontamination triggers in 2012 to reduce the threat of

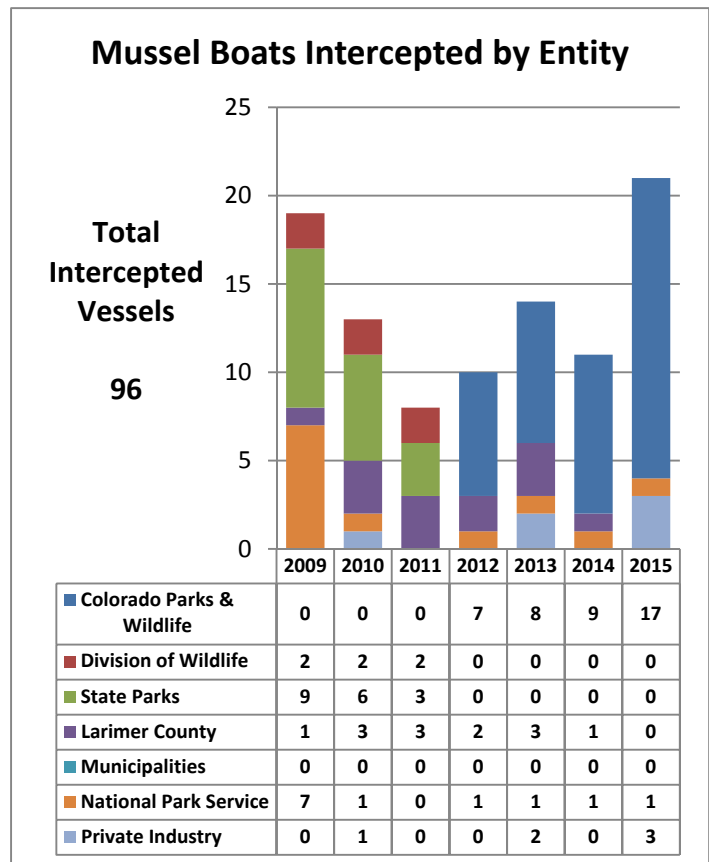
invasion from viable zebra or quagga mussel veligers living in standing water, to protect against watercraft coming from other state’s infested waters and to reduce the spread of other invasive species.

Colorado successfully continued utilizing the ANS Mobile data collection system at 35 authorized locations within the state of Colorado. This application is compatible on all iOS and Android devices which greatly reduces the effective cost of operating mobile data collection on boat ramps across the state, and reduces costs for data entry. It also provides for much greater reliability in data collected in the field at inspection stations.

Colorado continues to lead the way in mobile data collection. In 2015, the state of Utah joined the state of New Mexico in employing ANS Mobile as their primary form of data collection. With the addition of Utah to the inspection database, inspectors in Colorado were able to view inspection records from infested waters in a neighboring state for the first time! With the benefits of regional data sharing proving to be abundant, and the success of the Colorado system, the U.S. Fish & Wildlife Service provide a grant to CPW through the Quagga Zebra Action Plan for Western Waters (WRP, 2010). The CPW Invasive Species Program has taken the lead in developing a truly regional data system for deployment across the West in 2016. This sytem will improve communications amongst jurisdictions and assist watercraft inspectors in assessing the risk of watercraft intending to launch at their water body!

Mussel Boat Interceptions

This year the state intercepted more watercraft infested with zebra or quagga mussels than ever before! All watercraft were fully decontaminated prior to being allowed into Colorado’s waters. A total of 96 boats with attached adult zebra or quagga mussels have been intercepted coming into Colorado’s waters from out of state at watercraft inspection and decontamination stations since 2009. Infested vessels were intercepted at Blue Mesa, Boulder Marine, Canyon Marine, Carter, Cherry Creek, Chatfield, Crawford, Denver CPW Office, Dillon, Eleven Mile, Frisco Bay Marina, Grand Junction CPW Office, Great Lakes Marine, Highline, Horsetooth, Jackson, Lathrop, Navajo, Pueblo, Ridgway, Shadow Mountain, Spinney Mountain, Taylor Park, Turquoise, Vallecito and Williams Fork. The infested vessels were coming from Arizona, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Minnesota, Mississippi, Missouri, New York, Nevada, Oklahoma, Ohio, Texas and Wisconsin. The majority of the intercepted vessels were coming from the Great Lakes, the Mississippi River, or Arizona (Lake Pleasant or Lake Havasu). All boats were fully decontaminated to ensure all mussels were dead, and no mussels were visibly attached to the vessel.



WID Quality Control

The CPW Quality Control and Field Support Team perform quality control evaluations annually at all state certified watercraft inspection and decontamination stations to ensure that standard procedures are being followed,

per regulatory requirements. The team also ensured that stations were stocked with educational materials and provided on the job training to inspectors and supervisors. In 2015, CPW conducted 105 evaluations at WID stations. CPW also called 31 state, local and federal offices, private businesses and inspection stations to assess the quality of telephone customer service with respect to ANS. The quality control program will continue in 2016 with quality evaluations, announced visits, on the job training, supervisor audits and customer service evaluations.

Protocol Development for Watercraft Inspection and Decontamination

To ensure the protection of the state’s waters and the validity of the state certification program, CPW has strict field protocols and training regiments since the program’s inception. All watercraft inspection and decontamination staff in Colorado attends the same training and adheres to the same protocols. Development and implementation of effective standardized protocols is a priority. Many other states base their procedures and training programs off Colorado’s numerous publications.

In 2014, the Western Regional Panel on ANS and the 100th Meridian Initiative adopted the Colorado training program as the regional standard for certification of boat inspectors and decontaminators. The student and trainer’s curriculum, as well as field procedures, have been adapted for other states and was published in early 2015. The CPW training program is being taught nationally, as it has been proven to protect waters from ANS.

Information and Outreach

CPW and partner agencies have implemented a comprehensive, multi-faceted, Invasive Species public-education campaign. The cooperative effort focuses on boaters and anglers primarily to prevent the spread of ANS utilizing a variety of mediums, including billboards, boat ramp signage, brochures, agency Web pages, and staffing tradeshow and expo booths to convey this message.

Along with ANS, the invasive species program within CPW has been conducting information, education and outreach efforts for terrestrial and aquatic plants (noxious weeds), animals, insect and disease invasive species for a number of years. In 2016, the invasive species program intends to implement a comprehensive outreach strategic plan that utilizes community based social marketing to collaborate with all recreational users and change behaviors that will prevent all invasive species from being introduced and spread.

Accomplishments include distribution of tens of thousands of printed rack cards, brochures, handouts, DVDs, posters and signs at offices, boat ramps and water-access points. In addition, we have implemented an aggressive media relations campaign, using press releases and conducting web-based, radio, print and television interviews. CPW staff hosted numerous outreach seminars to boating and angling groups, marine dealers, HOAs, watershed groups, basin roundtables, ditch companies, municipal water managers and providers. These efforts will be expanded in 2016 to more users and a larger variety of invasive species vectors (e.g. noxious weeds).

The priority for education and information continues to focus on the nursery and pet industry with the goal of reducing invasive species sold in Colorado to reduce the risk those invaders will escape or be dumped into native ecosystems or wildlands. Increasing educational efforts towards Colorado residents to prevent invasive species introductions within Colorado, and to those visiting or doing business in our state, is a top priority for CPW.

Other ANS of Concern

Invasive Waterflea (*Daphnia lumholtzi*)

The newest aquatic invasive species detected in Colorado are invasive waterfleas. There are three types of invasive waterfleas (*Bythotrephes longimanus* (spiny), *Ceropagis pengoi* (fishhook) and *Daphnia lumholtzi* (waterflea). Only the non-native *Daphnia* has been found in Colorado. In 2013, it was detected in Chatfield, Douglas, John Martin, Navajo and Pueblo Reservoirs, and Pueblo Hatchery. In 2014, it was also detected in Arkansas River, Boulder,



Waterflea

Cherry Creek, Jackson, North Sterling, Prewitt, Prospect, Union and Windsor Reservoirs. Nine new waters were listed in 2015 which are Barr Lake, Bear Creek Reservoir, Boedecker Reservoir, Boyd Lake, Jumbo Reservoir, Horsetooth Reservoir, Boxelder #3/Smith Lake, Adobe Creek Reservoir and Holbrook Reservoir.

There are no control methods for waterfleas. Similar to zebra or quagga mussels, they move to new lakes or reservoirs in standing water on watercraft and once established they can be moved downstream into new impoundments in the natural flow of water. Educating the public and following strict watercraft inspection and standing water decontamination procedures are the best method to contain current infestations and prevent further spread to new waters.

Water fleas are planktonic zooplankton aquatic crustaceans that have a jumpy or jerky mode of swimming. The Daphnia waterflea was introduced accidentally as contaminants in the aquarium trade and fish stocking. They are native to Africa, Asia and Australia. Like invasive mussels, the Bythotrephes and Ceropagis were introduced into the Great Lakes from ships' ballast water coming from Eurasia. It only takes one microscopic adult or egg to start a new infestation. If a female dies out of water, under certain conditions they produce eggs that can resist drying and freezing, which can establish a new infestation later.

Waterfleas out-compete native juvenile fish for food, causing low survival rates. They have sharp barbs that stick in the throats of predatory fish and make them unpalatable especially to juvenile or smaller fish. They can avoid predation by larger fish by retreating to deeper waters during the day where they are less visible and ascending at night where food is abundant and temperatures higher, increasing metabolism and growth rates. Their long spines can cause them to become entangled on fishing lines and can clog eyelets of fishing rods.

Rusty Crayfish

There were no new detections of Rusty Crayfish in 2015. Rusty crayfish is an invasive species that was first discovered in 2009 in a main-stem impoundment of the Yampa River and at two river locations between Stagecoach Reservoir and Steamboat Springs. The CDOW conducted extensive surveys statewide and detected a population in Sanchez Reservoir State Wildlife Area in 2010 and Stagecoach State Park in 2011. Populations have been managed through manual removal of adult rusty crayfish to reduce the reproducing population in the reservoirs and limit impacts to native communities and users.

The Director issued an Emergency Administrative Restriction: Crayfish Collection Closure for Sanchez Reservoir, which restricts the taking of a live crayfish from Sanchez. CPW implemented regulations passed by the Wildlife Commission in November 2010, in an effort to stop the spread of ANS and diseases. Those regulations included substantive changes to further prohibit the transport and use of live baitfish, which now must be used in the same body of water from which they were taken, except for those fish captured within the Lower Arkansas River Basin (below Pueblo), which may be transported and used in other counties within that area. In addition, all crayfish caught west of the Continental Divide must now be immediately killed and taken into possession, or immediately returned to the water from which they were taken. There are no crayfish native to the Western Slope. The same restriction applies to Sanchez Reservoir on the Eastern Plains due to the invasive rusty crayfish found there in 2010.



Rusty crayfish are native to the Ohio River Basin and have expanded their native range to include several U.S. states and Ontario, Canada. They colonize lakes, rivers, and streams throughout North America. They are more aggressive than native crayfish, better able to avoid fish predation, and can harm native fish populations by eating their eggs and young. They can displace native crayfish and hybridize with them. They graze on and eliminate aquatic plant populations that provide necessary habitat and food source for native fish and waterfowl.

New Zealand Mudsnail (NZMS)

NZMS was detected in Chatfield Reservoir State Park during an aquatic noxious weed survey for Eurasian watermilfoil in 2015. Previously, there were detections from 2010-2013 in Fountain Creek in Colorado Springs, Spinney Mountain State Park, Eleven Mile State Park, Delaney Buttes State Wildlife Area, College Lake at CSU in Fort Collins, and Dry Creek within the City of Boulder. The invasive snail was first found in Colorado in 2004 in Boulder Creek, the South Platte River below Eleven Mile dam and the Green River in Dinosaur National Monument. There were no detections from 2005-2009.



New Zealand Mudsnail

All known populations are being monitored annually. There is no viable method for control of these very small, asexual animals. CPW places a strong emphasis on angler education providing wader brushes and instructional rack cards to anglers. The only way to stop the spread of these tiny invaders is through educating anglers to clean their waders in between each and every use!



Aquatic Noxious Weed Coordination

CPW has been the lead agency on aquatic noxious weed mapping and education, in close partnership with the Colorado Department of Agriculture’s Noxious Weed Program. A few distinct CPW efforts are summarized below.

Eurasian watermilfoil (EWM)

The Invasive Species Program has coordinated EWM management statewide since 2005. A detailed Geographic Information System (GIS) database of EWM locations and control efforts was developed and is maintained by CPW. The database is updated annually. CPW is actively controlling EWM with herbicide treatments at Lathrop State Park, St. Vrain State Park, and Chatfield State Park.



An EWM weed mat

Purple Loosestrife

Beginning in 1993, the CDOW has been the lead coordinator on the Denver metro purple loosestrife management effort. The goal of the program is to make sure that purple loosestrife is controlled to protect waterfowl habitat and maintain in-stream flow. Approximately 31 cities and counties, public agencies, private landowners and private entities are involved. For example, Parks aggressively controls purple loosestrife at Cherry Creek with spraying and hand pulling small plants and seed head cutting on larger plants and continues to shrink the population there. The CPW and CDA share the responsibilities for the continuance of this program.



Purple Loosestrife

Regional Participation

CPW’s Invasive Species Coordinator provides regional and national leadership on efforts to stop the spread of zebra and quagga mussels and other ANS, including:

- Chair of the Western Regional Panel on Aquatic Nuisance Species
- Chair of the Western Invasive Species Coordinating Effort
- Chair of the Communications, Education and Outreach Committee for the Federal ANS Task Force
- Member of the Western Association of Fish and Wildlife Agencies’ Invasive Species Committee

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Operating and Financial Statement

Senate Bill 08-226 created the Division of Wildlife Aquatic Nuisance Species fund within the state treasury and authorized a funding of \$3,917,244 in FY 08-09 towards the prevention, containment and eradication of aquatic nuisance species in state waters. This funding was a mix of \$1,250,000 wildlife cash combined with \$2,667,244 of funding from the operational account of the severance tax (Tier II). SB 08-226 appropriated \$1,304,544 of severance tax funding for the state fiscal year commencing July 1, 2009 and for every state fiscal year thereafter. The CDOW did not receive appropriated funding prior to July 1, 2008, so expenditures made for the 2008 Boating Season, prior to July 1, 2008 were paid for out of wildlife cash. Permanent CDOW staff time spent on aquatic nuisance species work was paid for with wildlife cash, including the Invasive Species Coordinator, from 2008-2013. As of July 1, 2013, the Invasive Species Coordinator and other CPW FTE are now being paid out of the Parks ANS Fund to reduce parks' cash expenditures.

Senate Bill 08-226 also created the Colorado State Parks Aquatic Nuisance Species fund within the state treasury and authorized funding from Severance Tax (Tier II) in FY 08-09 of \$3,289,392. For FY 09 and beyond the Parks are funded at \$2,701,461. SB 08-226 authorized seven ANS FTE in Parks. In 2011, two FTE were eliminated and in 2012, one more of these FTE were eliminated. Only four FTE remain active today.

Below is a summary of CPW's ANS expenditures for the last three fiscal years.

Funding Source	FY12-13	FY13-14	FY14-15
Parks ANS Fund	\$1,976,874.41	\$2,628,232.88	\$2,642,082.46
Wildlife ANS Fund	\$2,167,550.53	\$1,799,940.39	\$1,794,138.54
CPW Cash	\$212,095.87	\$29,506.51	\$3,765.19
Total:	\$4,356,520.81	\$4,457,679.78	\$4,439,986.19

ANS fund expenditures remained consistent in FY14-15 from FY13-14. In FY13-14, expenses increased by \$101,158.97 due to a change in internal policy that required all CPW FTE staff to charge time working on ANS to the Parks' ANS fund. Previously, FTE salaries and benefits were charged to wildlife or parks cash. Parks cash expenditures on ANS were not tracked prior to the merge.

CPW has leveraged SB08-226 funds with federal and local grants in order to maintain the ANS Program at its current level and provide the services Coloradan's have come to expect. Federal grants have almost all gone away and there are only two local government contracts remaining. The following table details new agreements signed for FY14-15. The agreements are multi-year and may be accounted for over several fiscal years.

Partner Agency	Direct Contribution
Colorado Springs Utilities	\$15,124.00
Denver Water	\$150,000.00
US Forest Service	\$75,000.00
Total:	\$240,125.00

The figures in the following table represent in-kind contributions of partners directly to jointly implemented WID stations. These funds are not provided to, or spent by, CPW.

Partner Agency	In Kind Contribution
Larimer County	\$155,040.95
U.S. National Park Service	\$421,617.00
Total:	\$576,657.95

CPW continues to spend reserve funds from savings during the first five years of the program to offset costs that were previously paid for with wildlife or parks cash. If possible, CPW plans to continue retaining budget carryover between fiscal years and utilizing these funds, as permitted in the ANS Act, because the boating season and some projects span two fiscal years. Federal contributions and grants continue to decline or evaporate. CPW has contingency plans to respond to new zebra or quagga mussel detections in new waters during the middle of a boating season. The cost of operations at a major recreational water body following infestation could double in order to implement containment measures. The future risk of infestation could be moderate if more monitoring is conducted and other agencies within Colorado and surrounding states put in place programs to prevent the spread of zebra and quagga mussels.