Analysis of the National Animal Identification System

Throughout history, humans have raised animals for food, transportation, and companionship. This country has deep agricultural roots, and many states have proud histories of independent livestock ranches. In the last 60 years, however, our country has become increasingly urbanized, with many people losing their connections to animals and food production. The livestock industry has become increasingly consolidated in the hands of a few large corporations. Yet in the face of this increasing industrialization, there has been a growing movement back to the land and animals. Third-generation ranchers have withstood the economic pressure and held on to their land and their independence; other people have moved away from the cities and begun farming for the first time in their lives; consumers increasingly demand food from these local producers. This movement poses great promise for our rural communities and local economies. And the connection with animals can be seen outside of the context of food, whether it is children playing with baby chicks in their schoolroom or the intense love that horse owners have for their animals.

The National Animal Identification System threatens to cripple or even destroy this essential connection between individuals and animals. If fully adopted and implemented, the likely outcome is that animal ownership increasingly will be limited to large entities who can afford to comply and who are willing to accept the governmental intrusion. Yet this program will do virtually nothing to safeguard animal health or human health and welfare, its alleged purpose.

In discussing the issues surrounding the National Animal Identification System, it is critical to recognize the scope of the proposal. USDA recently described NAIS as "one of the largest systematic changes ever faced by the livestock industry."[1] Despite the scope of the proposed program, the government has conducted no analysis of whether NAIS will work, much less whether it is cost effective or practical. Rather, the USDA has relied on generalized statements that NAIS is necessary to protect the United States against an outbreak of animal disease and that it will help the export market. The discussion below is intended as an initial analysis of the NAIS proposal and its flaws. This discussion is not comprehensive, but merely an overview of the most egregious problems that have been ignored by the proponents of the program.

The USDA's Proposed National Animal Identification System

In 2002, the National Institute for Animal Agriculture (NIAA) established a task force to create a national animal identification system.[2] While NIAA may sound like a public interest organization, its membership includes large commercial agricultural interests (such as Cargill Meat, Monsanto, and the National Pork Producers Council) and companies that provide tagging and tracking equipment and computerized services (such as Global Vet Link, Micro Beef Technologies, and Digital Angel).[3]

The NIAA included USDA in its task force to develop a national electronic identification system.[4] Over the course of the next three years, these agricultural-industry task forces worked with the federal government to develop a detailed plan.

In April 2005, the USDA published a draft strategic plan and draft program standards for the NAIS. Based on the published documents, the NAIS is to be implemented in 3 stages:

(1) Premises registration: every person who owns any livestock animal will have to register the premises where the livestock is held with the state. Registrations include the owner's name, address, and telephone number, and are keyed to Global Positioning System coordinates. Each such "Premises" is assigned a nationally unique, 7-character premises identification number.[5]

(2) Animal identification: There will be two levels of animal identification: individual animal and group or lot identification. Most animals would need to be individually identified with a unique 15-digit number. Animals either will be implanted with a microchip or tagged with a radio frequency device, or otherwise physically identified. The tag will have to bear the entire 15-digit number, with the number easily read.[6] For at least some species, radio-frequency identification devices would be required.[7] Group or lot identification could only be used where groups of animals are managed together from birth to death and not commingled with other animals.[8] Right now, only poultry and swine are being considered for group identification,[9] and in practice only large confinement producers would be able to avail themselves of this exception to the individual tagging rule. If animals do not meet the requirements for group identification, they will have to be individually identified. The animal owner will bear the cost of the tagging and reporting.

(3) Animal tracking: Every time a tag is applied, an animal is moved onto or off the premises, a tag is lost or an animal needs to be re-tagged, an animal is killed or dies, or an animal is missing, the event will have to be reported to the government within 24 hours.[10]

The USDA's draft plan noted that the program would initially be voluntary, but would be transitioned into a mandatory program.[11] The USDA's original timeline indicated that premises registration and animal identification would become mandatory in January 2008, and animal tracking would become mandatory in January 2009.[12]

On April 6, 2006, USDA held a news conference and released additional documents to implement NAIS that changed the timeline set out in the 2005 documents. Although the USDA repeatedly states that NAIS is now "voluntary," it has set a goal of 100% premises registration, 100% animal identification for animals under 1 year of age, and 60% animal tracking for animals under 1 year of age by January 2009.[13] If these goals are not met, USDA threatens to adopt federal regulations making the program mandatory. In other words, the program is "voluntary" only if everyone complies. Notably, the 2006 documents did not state that USDA withdrew its officially-published 2005 Strategic Plan and Program Standards.

NAIS is not a free market program. The USDA's documents call for government enforcement and require every person to participate, whether that person considers the program to be in his financial interests or not.

The Flaws with the NAIS

I. The stated rationale – to track animal diseases – is flawed and does not support this program

It is critical to recognize that animal diseases, in both wild and domesticated animals, have been part of human existence for thousands of years. The excuse of disease cannot justify every intrusion into citizens' privacy and burdens on their property rights. The 9/11 hijackers used box blades to hijack the planes, but most citizens would object to regulations requiring every person to register their tools and report to the government whenever they took their tools off their property.

A. NAIS does not address the causes of disease or prevention

NAIS ostensibly is designed to allow traceback within 48 hours of officials finding a diseased animal. The tracking of animal disease 48 hours later fails to address USDA's first defense: the prevention of diseases. With respect to prevention, NAIS wholly fails to recognize the critical issue of different production systems. The susceptibility of animals to disease and the likelihood of transmission differ greatly depending on the species of animal, the exact disease, and the conditions under which the animals are kept.[14]

During the Exotic Newcastle Disease outbreak in California, for example, the American Veterinary Medical Association noted that the "virus can be spread by vaccination and beak trimming crews, manure handlers, and poultry farm employees. It can also survive for several weeks in a warm, humid environment on birds' feathers, manure, and other materials."[15] Confinement poultry operations, in which the animals are debeaked and housed with thousands of other birds in a building, are clearly ideal conditions for the spread of the disease. In contrast, "pastured poultry" operations, in which the birds are kept in natural conditions on rotating pastures, have a far lower chance of developing or spreading Exotic Newcastle Disease or any other virus.[16]

As further evidence of this fact, in the 2004 outbreak of avian flu in Texas, the disease was found in a 6,600 bird flock in commercial poultry operation; but despite testing more than 350 nearby non-commercial flocks, no infected birds were found in non-commercial flocks.[17] In the 2002 outbreak of avian influenza in Virginia, "farm equipment, vehicles and personnel" moved among commercial facilities caused transmission of the virus.[18] A recent report indicates that the spread of avian flu, including the greatly-feared H5N1 virus, is due to the conditions in confinement poultry operations.[19] As noted in that report, a USDA report found that, out of 45 outbreaks of avian flu in the country of Laos, 42 of the outbreaks occurred in commercial operations.[20]

Despite the clear, scientifically documented differences between production systems, NAIS treats small-scale livestock owners as if they were large commercial producers. The backyard poultry owner with 10 chickens free-ranging is considered as much of a threat to animal health as a commercial operation with 10,000 chickens living in a crowded building. The farmer raising sheep or cattle on healthy pastures is treated the same as the feedlot with hundreds of animals crowded into small pens. Indeed, the small-scale producers face even heavier burdens than the large commercial operations because of economies of scale and the way the USDA has defined group lot numbers. This program is precisely the opposite of what is needed to prevent and control disease.

The issue of prevention is highlighted in the case of one of the best-known animal illnesses, BSE or "Mad Cow Disease." The generally-accepted theory is that BSE is caused by the use of animal feed containing contaminated animal products as a protein source.[21] BSE is thus entirely preventable: one simply has to avoid feeding cows any animal products from other mammals who might have the disease agent. In 1997, the Food and Drug Administration (FDA) established regulations that prohibit the feeding of most mammalian proteins to cattle.[22] This feed ban appears to have been effective in preventing younger cattle from developing BSE in general, although the enforcement and scope of the feed ban has been criticized. Both of the U.S. cows found to have BSE (one in Texas and one in Alabama) were over ten years old and born before the feed ban. Surely our limited governmental resources would be better used by stopping practices that cause the illnesses than in tracking diseases after the fact.

Another aspect of the prevention issue is the concentration of the food supply in the hands of a very few large corporations. In 2005, the U.S. Government Accountability Office ("GAO") reported on the government's efforts to protect agriculture from a terrorist attack. The report focused on the issue of livestock diseases, and noted that the same measures that would protect against a disease outbreak would apply whether the disease was due to natural or intentional introduction of disease.[23] The GAO report on agriculture and terrorism noted that the concentration of our food supply makes it vulnerable to attack: "the highly concentrated breeding and rearing practices of our livestock industry make it a vulnerable target for terrorists because diseases could spread rapidly and be very difficult to contain. For example, between 80 and 90 percent of grain-fed beef cattle production is concentrated in less than 5 percent of the nation's feedlots."[24] Decentralizing and reducing the control of our food supply in the hands of a few, large companies would increase our security. Yet NAIS was developed by and for large producers, and will only lead to increased corporate control of our nation's food, in turn increasing our vulnerability.

B. By creating a burdensome and intrusive government program, NAIS will lead to the development of a black market which will increase the problem of disease

NAIS may also increase the spread of livestock diseases by creating a new black market. To understand the potential problem, one has only to look at the outbreak of Exotic Newcastle Disease that occurred in Los Angeles in 2002, a situation that pro-NAIS supporters have repeatedly referenced.[25] The Exotic Newcastle Disease outbreak was started and spread by cockfighting flocks.[26] Cockfighting is illegal in California and the roosters were smuggled in from Mexico.[27] Obviously, people who use their animals for illegal activities will not comply with the program. The USDA's claim that 100% participation is necessary to address disease issues founders on the reality that there will never be complete participation in reality.

If NAIS is adopted, it is inevitable that some people – whether for religious reasons, economic reasons, or unwillingness to allow the government intrusion – will raise animals illegally without registering their premises. Since they will be acting illegally, they will be far less likely to seek a veterinarian's help should a disease problem arise. Thus, NAIS will actually create conditions that increase the probability of disease outbreaks by undermining the first line of defense: the actions of private individuals and their veterinarians in quickly diagnosing and containing diseases.

C. NAIS is not a necessary or important tool in addressing animal disease

There are far more effective ways to address animal diseases than an electronic identification and tracking system. The USDA and the equivalent state agencies have extensive programs in place to monitor, track, and contain disease. These existing programs were analyzed in the Government Accountability Office's (GAO's) report on the efforts to protect agriculture from a terrorist attack.[28] As acknowledged in that report, the government's ability to respond to an intentional introduction of livestock disease reflects its ability to respond to natural outbreaks.[29]

The GAO identified multiple deficiencies in the government programs: many veterinarians lack the training needed to recognize the signs of foreign animal diseases; USDA does not use rapid diagnostic tools to test animals at the site of an outbreak; vaccines cannot be deployed within 24 hours of an outbreak; and current USDA policy requires a complex process for deciding if and when to use vaccines, a process that could be too lengthy during an outbreak.[30] The report listed additional "management problems": a decline in agricultural inspections at ports of entry, which are the first line of defense against the entry of foreign diseases; weaknesses in the flow of critical information among stakeholders; insufficient technical assistance to states for developing emergency response plans; shortcomings in coordinating working groups and research efforts; and lack of integration of agencies' databases.[31] Notably, the GAO did ***not*** identify any deficiencies in current mechanisms for tracking animals, or recommend that resources be allocated to create a program such as NAIS.

While the GAO report did not identify NAIS as important in controlling animal disease, the report highlighted an issue that must be considered in discussing NAIS. What happens after the government traces animals back? Current USDA policy calls for "depopulation." Stripping away the euphemisms, this means that the government will kill all animals, domestic and wild, within a 10 kilometer radius of wherever the infected animal has been.[32] Healthy animals would be killed, whether or not the disease is fatal to animals or transmissible to humans. If the disease has spread beyond the initial quarantine zone, which is likely due to the USDA's refusal to use rapid field tests, the government would continue to expand the kill zones.[33] As the GAO Report noted, rapid field tests would allow slaughter to be limited to infected animals, rather than simply butchering every animal within the area.[34]

Instead of addressing prevention, diagnosis, and treatment of disease, the USDA has spent over $84 million of taxpayer dollars to develop an electronic tracking system[35] and seeks to impose this unnecessary and ineffective system on every person who owns livestock.

II. The program will not increase food safety

For many people, the issue of animal health is closely linked to food safety. Yet the National Animal Identification System will do nothing to improve the safety of our food supply.

Most food-borne illnesses are from bacteria such as salmonella, e. coli, and campylobacter, or a specific group of viruses called the Norwalk viruses.[36] These organisms contaminate food due to poor practices at slaughterhouses or in food handling.[37] NAIS will do nothing to prevent these problems from occurring. Moreover, because the tracking will end at the time of slaughter, NAIS will not improve the government's ability to trace contaminated meats once they are in the food chain.

Although it is not a widespread problem, the issue of BSE or Mad Cow Disease is of great concern to many Americans. The most effective protection against the human health threat from BSE would be a system of testing every slaughtered cow that enters the food supply, as is currently done in Japan.[38] England and the European Union also test significantly more cattle than does the USDA, which tests only about 1% of our slaughtered cattle.[39]

NAIS will therefore do nothing to increase the safety of the American food supply, although it will almost certainly raise the cost of food.

III. The alternative rationale – that this program is necessary to help the U.S. export market – is not a valid basis for a mandatory program.

The USDA has also stated that the animal identification program is necessary to help the export market.[40] This rationale obviously applies only to food animals, not most American horses, nor our parakeets, parrots, llamas or alpacas, all of which are included in various states' NAIS plans.

With respect to food animals, the issue of the export market could easily be addressed by a voluntary program, supported by the affected meat exporters. Such a program would allow the market to determine how valuable it is to track animals from birth to death. Any farmer that wishes to export animals or food to other countries could enroll in the program. In turn, exporters could refuse to buy from anyone who was not also enrolled in the tracking program. From the perspective of the domestic market, this program could simultaneously be used to create a label, which might then demand a premium from concerned consumers, similar to the organic certification program.

If NAIS were a market-driven program, those premiums would ultimately go to the farmers and ranchers who spend extra money and labor to identify and track each animal. But if NAIS is made mandatory, so that everyone has to tag and track their animals, there will be no premiums. Only a handful of large companies will profit from the export market. Meanwhile, the costs of the program will drive small producers out of business, enabling large companies to increase their control of agriculture and contributing to higher prices for consumers as competition is eliminated.

Although the USDA has claimed that the program is currently "voluntary" and "market driven," the facts do not support this. USDA has spent over $84 million in grants to states and private companies to develop this program, and is seeking another $33 million in the current federal appropriations bill. Several states, at USDA's urging, have either adopted or proposed mandatory portions of the program. This is not the free market functioning.

Neither the export market nor the domestic market requires a mandatory program that includes every single livestock animal in the country. The free market should be allowed to function.

IV. Technological problems with NAIS

A. The microchips are subject to multiple problems and cannot guarantee unique identification.

Although the USDA has claimed that NAIS is "technology neutral," the USDA's documents specify that RFID tags would be the means for identifying cattle and the Equine Species Working Group has similarly specified that microchips would be the default for identifying horses.[41] Like any technology, RFIDs and microchips have inherent problems. Electronic devices become obsolete very quickly. Yesterday's $2,000 personal computer is now a piece of worthless junk that cannot run modern software. While many animals are slaughtered within a couple of years, breeding stock may be kept for 10 years or longer. Will people have to re-chip their animals every few years?

Moreover, RFID technology, like any electronic device, is subject to problems that do not exist with traditional identification methods such as branding or tattoos. Depending on the security of the technology used, one can clone microchips, using a device that can be hidden in someone's hand and passed over the chip in just seconds.[42] And a recent study shows that RFID tags are susceptible to computer viruses.[43] This means that anyone wishing to cause problems (terrorist or not) could not only tamper with tags within their control, but could spread problems to all other tags scanned using the same equipment.[44] One need only imagine a busy sale barn, with every animal's tag corrupted by the infected scanner to understand the problems that a terrorist or other criminal could cause with this system.

The technological problems don't end there. Both the USDA and the Equine Species Working Group ("ESWG") have specified the exact type of RFID to be used: the ISO 11784/11785 chip.[45] ISO, or the International Organization for Standardization, creates so-called "open standards," essentially a recipe that any manufacturer may follow to create a product that complies with the standard. This approach to standardization works well for modem protocols, paper sizes, and other items of daily life that need to be interchangeable. But the ISO design standards do not guarantee unique ID numbers. Rather, the standards provide for chips that can be programmed in the field before they are applied to the animals, or even reprogrammed *after they are in the animal.* Manufacturers all over the world have been selling these reprogrammable chips for years. They have also been selling "ISO programming units" that allow any person – including thieves and terrorists – to reprogram the numbers with just a wave of the wand.[46] This problem with the ISO standard is well known in the technology community and has been debated for years.[47]

It is impossible to reliably trace an animal if someone can change its identity at any time. These specific RFIDs can be programmed to read any number the customer desires, including ID code duplicates. Using a programming unit—a legally-available device—someone with a sick animal could re-program the tag to a non-existent number, or even the ID number of someone else's animal, to shift the blame. The opportunities for avoiding true identification are legion.

This technology does have its uses. Specifically, ISO 11784/85 chips are useful in what's called "closed loop systems." So, for example, they can help a dairy farmer track his own cows, monitor their milk production or weaning weights, etc., precisely because they allow the farmer to reprogram the chips with new information. After all, the farmer wants to be able to change the

information on the chip to reflect changes in the animal, and he has no reason to reprogram the ID number and exchange identities among his own cows. But the chips will not work for a national identification system where individuals have motives for trying to bypass the system.

Significantly, the ISO 11784/85 chip is *not* the type of microchip that has been generally used in horses, dogs, or cats in the United States for private purposes, and it emits on a different frequency, 134.2 kHz, rather than standard 125 KHz. Thus, most of the scanners and microchip readers in the U.S. today would not read or even detect these ISO chips. Every animal handling facility will have to buy expensive new scanners in order to comply with the USDA- and ESWG-recommended technology.

B. The readers are inefficient and expensive

The issue of the readers raises yet more flaws with this program. The ISO standard reflects a "compromise" that incorporates two mutually incompatible technologies, which effectively requires two readers in one box.[48]

To understand this issue, one must realize that a passive microchip, such as the ISO 11784/85, has no energy source of its own. The chip receives its power from the signal transmitted by the transmitter or reader, called an interrogation signal. The microchip then oscillates at the same frequency as that of the signal and transmits a return signal.

With a so-called full-duplex approach (FDX), the return signal initiates as soon as the beginning of the interrogation signal is received. The return signal is received repetitively and without interruption for as long as a continuous interrogation signal is maintained. With a half-duplex approach (HDX) the return signal starts only after the end of the interrogation signal has been received. The return signal is then only sent once. The full-duplex and half-duplex approaches are fundamentally incompatible.

Despite the incompatibilities, the ISO standard incorporates both technologies. Readers for ISO-compliant transponders must be able to read both types of transponders. In essence, this will require two readers in one box. The result is a reader that is both slower and less reliable under moving conditions, such as trying to read tags on animals moving though a sales barn.[49] Moreover, because the reader must include two technologies, it is more expensive.

C. The databases are unmanageable and impractical

The problems with the microchips and readers are only the beginning. The USDA has set out its vision of multiple public and private databases, capturing all of the reportable "events" for every animal, with the USDA creating a metadata portal to use for its purposes.[50]

Establishing these databases will be a monumental task. There are over a hundred million cattle in the U.S., and millions more horses, chickens, sheep, goats, pigs, deer, elk, bison, and other livestock animals. These animals are taken to local shows, sold in auction houses, sold in private transactions between individuals, slaughtered, and otherwise moved for a multitude of reasons. The technological aspects of setting up such huge databases are daunting. And the databases are only as

good as the information that is entered. There will be literally hundreds of millions of opportunities for human error in this system.

Moreover, integrating databases is far from a simple task. Indeed, despite the emphasis on interagency cooperation since 9/11, the GAO's 2005 report on agriculture and terrorism noted that the federal government still had not integrated its own databases.[51]

USDA's plans also assume that all people covered by the NAIS will have computers, and web access, to make timely reports – within 24 hours after a reportable event. The truth is that large numbers of farmers and ranchers do not even own computers. USDA, and the implementing state agriculture departments, will have to take written reports, mailed to their agencies, or telephone reports, which will be transcribed. These cannot possibly meet the 24-hour reporting requirements. They will also introduce another significant failure point in the system: human input of data.

The technology companies and those entities that plan to operate the databases could make billions of dollars under NAIS. Yet, given the multiple failure points in the design, implementation and maintenance of the proposed database, there is no evidence that they could deliver 48-hour traceback of unique animal identification.

V. The program will be extremely costly

As the USDA admits, "there will be costs to producers"[52] for this program. Even the first step, premises registration, involves costs. Someone must pay for the computer hardware and software to create the database of all animal owners, as well as the personnel to manage the database. The regulation proposed in Texas included a $10 annual fee for premises registration, to be paid as a $20 biennial fee.[53] And this fee is too low, as the agency seriously underestimated the costs involved. At its May 2006 meeting, the agency staff reported that they were ***2 months behind*** with premises registration, even though only 5% of premises had been registered. Every state agency will face this problem, and the costs will either be borne directly by the producers or indirectly by every taxpayer.

The cost of premises registration does not even begin to address the full costs of the NAIS. The cost of microchips, the technology that the agency currently anticipate it will require for cattle, horses, sheep and goats,[54] can range anywhere from $5 to $50 per animal, depending on whether the owner does it himself or requires a veterinarian. If the owner applies the tag himself, one must also consider the added labor costs. And that does not include the costs of the reading devices or the continuing costs of updating a computer system if the owner chooses to file reports electronically. Even with respect to cattle, that amount can be significant when considered in light of most farmers' and ranchers' narrow profit margins. When applied to individual sheep and goats, where each animal may be worth as little as $100, the cost of microchipping is clearly excessive and burdensome.

Further, the cost for reporting every movement of every animal will differ, depending on whether the owner has to hire additional labor to help with the paperwork requirements. Indeed, with some animals, the time involved could be prohibitive. For example, consider the case of a farmer who has 100 laying hens in a movable shelter in the pasture. These laying hens are of different ages and were purchased as day-old chicks from different "premises of origin," so that

they do not qualify for a group identification number; they must therefore be assigned individual identification numbers and physically tagged.[55] One day, the farmer finds a pile of feathers in the pasture, where a coyote or other predator carried one of the hens away. The farmer will now have to catch each of the 99 remaining chickens and note their identification numbers so that he can report which chicken has gone missing.[56] The farmer will be faced with the option of breaking the law or spending all of his time simply counting the chickens.

The problems with reporting are not limited to poultry. Consider another hypothetical: a person who owns just one horse that is shown most weekends. Each weekend, that owner will have to file reports with the database, detailing where the horse was taken for that week's show.[57] Assuming that some of the training is done at a different location, as is common, more reports will have to be filed during the week reporting every movement on and off the premises. If the horse were to colic, which is a fairly common and *non-contagious* health problem, the owner would have to file yet another report in order to take the horse to the veterinarian. For just one horse that is shown regularly, an owner could be faced with filing dozens of reports a year, possibly up to a hundred reports. If the owner handles all of these reports, the cost in time will be significant. If the owner pays an employee to handle all of the reports, those payments will quickly accumulate.

The USDA has contended that people's concerns about the animal identification and tracking stages of NAIS are unfounded, stating that the requirements will not be as burdensome as predicted because the final regulations will be based on recommendations from each species' working group. But the published USDA Draft Plan and Draft Program Standards provide the only official guidance as to what would be required. Indeed, the links to several of the "working groups" are ***not*** to any government website.[58] Rather, they are to private webpages, some of which are run by large industry groups.[59] The only working group that has a report on the USDA website prefaced that report with the following disclaimer: "This draft report is made available for information only, and does not represent official USDA policy or guidance."[60] Most of the working groups have only vague, general statements or powerpoint presentations on their private websites. Clearly, the working groups' statements are neither binding on the government nor a source of reassurance for the many small farmers, ranchers, homesteaders, and companion-animal owners faced with the burdensome requirements found in the USDA's officially published documents.

In addition to the costs to the animal owner discussed above, there will be costs associated with the processing of requests for millions of individual animal identification numbers and all of the tracking reports. The state agencies and private companies, and combinations of them, who will run the databases will need both personnel and technology to handle the massive numbers of reports, not to mention enforcement of this huge program. USDA has already spent over $84 million in grants to the states and private industry,[61] and has requested $33 million in the current appropriations bill, and this is only the tip of the iceberg.

Australia has implemented an electronic identification system for cattle (although not for any other animal). The Australian Beef Association has estimated that the costs for its program could be as high as $40 for each animal.[62] The Association noted that a British parliamentary committee found that Britain's tracking program cost as much as $69 per animal sold. Producers cannot absorb these costs. They will either go out of business, or the cost of meat will rise significantly for consumers, or both.

VI. The program's costs will have wide-ranging effects

The costs discussed above involve the livestock owner's time and money. Yet the true costs of this program go far beyond those issues.

Some people who currently own animals will choose to sell or slaughter their animals rather than submit to such an intrusive government program. For some groups, such as the Old Order Amish, the program violates their religious beliefs. These groups believe that they are prohibited from registering their farms or animals in the proposed program due to Scriptural prohibitions. The way of life of these groups requires them to use horses for transportation and raise animals for their family's own food. The proposed plan would thus place them in the position of violating one or another of their religious beliefs.

Many other animal owners will be forced to sell because of the expense and infeasibility of the program. The USDA estimates that there are over 2 million premises with livestock in the US. While some of these are large commercial operations that can absorb the costs of this program (and pass those costs on to the consumer in the form of higher food prices), the majority are individuals, homesteaders, pleasure horse owners, hobbyists, and small farms and ranches.

The program also places burdens on some of our most vulnerable citizens, those that raise food for themselves and their families. This includes people on social security or disability insurance. Many of these people do not have computers or internet access. For them, the costs of premises registration alone, not to mention the rest of the NAIS, could be prohibitive.

If a significant portion of livestock owners dispose of their animals, there will be wide-reaching effects throughout the economy. Businesses that sell feed and supplies to small producers may go out of business. Local feed mills may also close. Real estate prices could be depressed as large numbers of rural land parcels are put up for sale. None of these economic effects have been considered by the USDA.

VII. The program is being driven by the financial interests of a handful of companies and associations

USDA has repeatedly defended its plan for NAIS by claiming that the "industry" supports the plan. Yet when one looks at the specific entities that support NAIS, many of them have financial interests that are different, and even contradictory, from the interests of the vast majority of individual animal owners.

Most obviously, the microchip and tagging companies will have a market for millions of chips and tags each year. They will be unconstrained by market concerns, because people will be forced to participate in the program under the threat of government fines and even criminal penalties.

But NAIS does not stop there; animals must not only be tagged, they must be tracked. Some of the people who sit on the board of directors for NIAA, the industry organization that initially developed the concept for NAIS, are executives in companies with financial interests in this aspect of NAIS. For example, Dr. Mark Spire of Schering Plough Animal Health sits on the NIAA Board. Schering Plough's subsidiary, Global Animal Management, Inc. ("GAM"), is in the "business of

providing data collection, data management, and data reporting services to the food producing, processing, and purveying industries."[63] GAM's website advertises a product, the Animal Tracker (GVMS) ™ which is described as "a multi-species animal tracking system that also abides by NAIS standards."

Similarly, Mr. Kevin Maher of Global Vet Link, LC, sits on the Board of Directors of NIAA, and Global Vet Link's previous director of marketing sits on the Equine Species Working Group. As described on its website, "During 2001, GVL launched its on-line application that allowed practitioners, state authorities, diagnostic laboratories and other health officials, to build, access and monitor animal movement documents all by the click of a mouse." If every animal in the U.S. is required to be electronically identified and tracked, Global Vet Link clearly stands to increase its business. One cannot reasonably expect that senior executives ignore their employer's interests when they are serving on the NIAA Board or the working groups.

Moreover, NAIS will require huge databases, which will be privately-owned and managed, which in turn means that someone or multiple someones will make a profit on those databases. In January of this year, several associations joined together to form the United States Animal Identification Organization (USAIO) to manage the "industry-led animal movement database."[64] The USAIO board of directors is made up of representatives from the Southeastern Livestock Network, the Northwest Pilot Project, the National Bison Association, the National Cattlemen's Beef Association, and the American Farm Bureau. Several of these associations support NAIS, but have not sought the opinion of their members in an open voting process.

VIII. There is no statutory authority for the NAIS

In addition to all of the practical problems discussed above, the USDA lacks statutory authority to adopt a mandatory animal identification plan. The USDA has stated that the Animal Health Protection Act is the source of its authority.[65] But that statute addresses only import and export of animals, interstate travel, quarantine areas, and related programs.[66] The statute contains no provisions that mention registration of every livestock owner's farm or a nationwide or intrastate animal identification and tracking program, nor are there any provisions that would provide authority for such a program. Indeed, there were multiple bills introduced in the 108th Congress to amend the statute to provide for a mandatory animal identification system and limit disclosures of the information collected under the Freedom of Information Act, and none were adopted.[67] There are three bills that have been introduced during the current Congressional session for the same reasons.[68] Congress clearly recognizes the USDA's lack of authority, even if the USDA has ignored that problem.

IX. NAIS would violate the Constitution

In addition to ignoring the lack of statutory authority, the USDA appears to have ignored the Constitutional violations posed by the USDA's proposed plan.

The proposed system violates the Fifth and Fourteenth Amendments' protections of property and fundamental rights. The plan would establish a huge, permanent database of individual citizen's real property (the homes and farms where animals are kept) and personal property (the animals themselves), and make it criminal to own those animals without registration of farms and

animals. Until now, the only systems of permanent registration of personal property in the United States have been for two items that many people believe have inherent dangers: motor vehicles and, in some locales, guns. Ownership of livestock is a traditional activity that has been practiced throughout history without government surveillance. There is no more justification for imposing reporting requirements on animal owners than on the owners of any other common property, such as tools. After all, anything has the potential to cause harm under some circumstances, even a hammer or kitchen knife. Moreover, this plan would heavily burden individuals' ability to raise food for themselves and their families. It is difficult to imagine a right more fundamental than the right to raise food to survive.

Further, having collected information on people's private homes and property, NAIS fails to protect this information. The USDA's proposal that the information be held in private databases is particularly troubling. What protections will individuals who are forced to enroll in the program have against misuse of their information for competitive purposes? And even if the government holds the information, individuals' information may be misused. For example, in Texas, the statute and proposed regulations to implement NAIS allow the information to be released to the attorney general's office, the USDA, the Department of Homeland Security, and the Department of State Health Services.[69] Moreover, the proposed regulations allow the agency to release information to any person the agency considers "appropriate" if the agency determines that livestock "may be threatened" (not that they actually are threatened) and the release of information is "related to actions the commission may take under this section."[70] This broad, open-ended provision violates the rights of every person who is required to register his or her private residence under the proposed regulations.

The proposed system may also violate the Fourth Amendment's protections against unreasonable searches and seizures, the equal protection clause, the First Amendment's freedom of religion clause, and constitutional restrictions on the taking of property.

Conclusion

NAIS is an intrusive, burdensome program that will not provide any real protection against animal disease or bioterrorism. The program is not justifiable on either philosophical grounds or a cost-benefit analysis. To the extent that tracking is a benefit to the market, it should be a voluntary, market-driven program paid for by the participants.

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Notes

[1] USDA Press Release No. 0120.06 (Apr. 6, 2006).
[2] Draft Strategic Plan, United States Department of Agriculture, Animal and Plant Health Inspection Service (published Apr. 25, 2005) (hereinafter "Draft Plan") at 4.
[3] The list of NIAA members is available at http://animalagriculture.org/aboutNIAA/members/memberdirectory.asp.
[4] Draft Plan at 4.
[5] Draft Plan at 8.
[6] Draft Program Standards at 7.
[7] Draft Program Standards at 6.
[8] Draft Program Standards, United States Department of Agriculture, Animal and Plant Health Inspection Service (published Apr. 25, 2005) (hereinafter "Draft Program Standards") at 5-6. *See also* Presentation by Dr. Hillman, Executive Director of Texas Animal Health Commission (Feb. 16, 2006), hereinafter "Hillman Presentation."
[9] Hillman Presentation.
[10] Draft program Standards at 13. The USDA's Draft Program Standards even include an event code for a "sighting – Animal has a confirmed sighting at location, no movement has occurred. (Ex: veterinarian sighting)." Just based on the Program Standards, it appears that a report would have to be filed if someone has a veterinarian come to their premises, even if no animals are moved on or off the premises.
[11] Draft Plan at 8-9.
[12] Draft Plan at 17.
[13] USDA, Strategies for the Implementation of NAIS (Apr. 6, 2006) at p.3.
[14] The health problems caused by confinement or industrial management systems have been well documented in the scientific literature. *See, e.g.*, Cravener, T.L., W.B. Roush, and M.M Mashaly, *Broiler Production Under Varying Population Densities*, POULT. SCI. 71(3):427-33 (1992); M.R. Baxter, *The Welfare Problems of Laying Hens in Battery Cages*, VET. REC. 134(24):614-19 (1994); D. Herenda and O. Jakel, *Poultry Abbatoir Survey of Carcass Condemnation for Standard, Vegetarian, and Free Range Chickens*, CAN. VET. J. 35(5):293-6 (1994); T.G. Nagaraja and M.M. Chengappa, *Liver Abscesses in Feedlot Cattle: A Review*, J. ANIM. SCI. 76(1):287-98 (1998); T.G. Nagaraja, M.L. Galyean, and N.A. Cole, *Nutrition and Disease*, VET. CLIN. N. AM. FOOD ANIM. PRAC. 14(2):257-77 (1998); D.H. Tokarnia, J. Dobereiner, P.V. Peixoto, and S.S. Moraes, *Outbreak of Copper Poisoning in Cattle Fed Poultry Litter*, VET. HUM. TOXICOL. 42(2):92-5 (2000)
[15] R. Scott Nolen, *Emergency Declared: Exotic Newcastle Disease Found in Commercial Poultry Farms*, JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION NEWS (Feb. 15, 2003).
[16] *See* Exotic Newcastle Disease, Information from the Texas Animal Health Commission (Apr. 2004) ("In close confinement, such as commercial operations, the disease can spread like wildfire. … ***However, the virus is destroyed rapidly by dehydration and by the ultraviolet rays in sunlight.***") (emphasis added).
[17] News Release, Texas Animal Health Commission (Apr. 1, 2004).
[18] E-Digest Volume 2, Number 11, *Issues Faced in the 2002 VA AI Outbreak*; paper presented by Dr. Bill Pierson, at the 2002 Poultry Health Conference sponsored by the Ontario Poultry Industry Council.
[19] Genetic Resources Action International ("GRAIN"), Fowl Play: The Poultry Industry's Central Role in the Bird Flu Crisis (Feb. 2006) (hereinafter "GRAIN Report").
[20] GRAIN Report (quoting USDA, *Laos: Poultry and Products—Avian Influenza*, GAIN Report, U.S. Department of Agriculture (Mar. 16, 2005)).
[21] *See* USDA BSE Overview, http://www.aphis.usda.gov/lpa/issues/bse/bse-overview.html; *see also* BSE Facts, at http://www.aphis.usda.gov/lpa/issues/bse_testing/bsefacts.html ("Cattle can become infected with BSE by eating feed contaminated with the infectious BSE agent.").

Some individuals have proposed an alternative theory as to the cause of BSE, namely that it is the result of the use of organophosphate pesticides and mineral imbalances. The USDA, FDA, and beef cattle industry have not accepted this theory. And even under this alternative theory, BSE is an entirely preventable, non-contagious disease, against which the best defense is testing, not tracking, as discussed below.

[22] *See* 21 C.F.R. Pt. 589, discussed at USDA BSE Overview, http://www.aphis.usda.gov/lpa/issues/bse/bse-overview.html

[23] United States Government Accountability Office, GAO-05-214, Homeland Security: Much is being done to protect agriculture from a terrorist attack, but important challenges remain (Mar. 2005) at p.56 (hereinafter "GAO Report on Agriculture").
[24] GAO Report on Agriculture at p.1.
[25] *See, e.g.*, News Release, Texas Animal Health Commission (Feb. 28, 2006).
[26] R. Scott Nolen, *Exotic Newcastle Disease Strikes Game Birds in California*, JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION NEWS (Nov. 15, 2002)
[27] *See* News Release, Texas Animal Health Commission (Jan. 1, 2003) ("END likely was initially introduced into Southern California through illegal importation of infected birds."); Congressman Elton Gallegly, Smuggling Cockfighting Roosters a Conduit to Bird Flu, SANTA BARBARA NEWS-PRESS (Dec. 11, 2005).
[28] United States Government Accountability Office, GAO-05-214, Homeland Security: Much is being done to protect agriculture from a terrorist attack, but important challenges remain (Mar. 2005) (hereinafter "GAO Report on Agriculture").
[29] The GAO Report on Agriculture repeatedly refers to the government's response to outbreaks, "whether natural or intentional." *See, e.g.*, GAO Report at p.26. The Report's conclusion explicitly states: "By overcoming these challenges, the United States will be in a better position to protect against and respond to a disease outbreak, whether natural or intentional." *Id.* at p.56.
[30] GAO Report on Agriculture at p.6-7.
[31] GAO Report on Agriculture at p.7-9.
[32] GAO Report on Agriculture at p.13 n.12 & p. 31.
[33] GAO Report on Agriculture at p.31.
[34] GAO Report on Agriculture at p.32.
[35] Steve Stecklow, U.S. Falls Behind In Tracking Cattle To Control Disease, Wall Street Journal (June 21, 2006).
[36] *See* Centers for Disease Control and Prevention, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm#mostcommon (website last checked May 8, 2006). Campylobacter, salmonella, and e. coli are all found in the intestines of animals, so that contamination occurs during the slaughter process. The Norwalk viruses are believed to spread primarily from one infected person to another, through handling of food by infected kitchen workers or fishermen.
[37] *See* Centers for Disease Control and Prevention, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm#mostcommon (website last checked May 8, 2006). "Meat and poultry carcasses can become contaminated during slaughter by contact with small amounts of intestinal contents. Similarly, fresh fruits and vegetables can be contaminated if they are washed or irrigated with water that is contaminated with animal manure or human sewage. ... Later in food processing, other foodborne microbes can be introduced from infected humans who handle the food, or by cross contamination from some other raw agricultural product."
[38] *See* Congressional Record—House at H4270 (June 8, 2005) (comments of Congressman Kucinich); *See also* Final Report, Japan-United States Working Group, Section 1(1)(iii) (Japan's BSE Measures) (July 22, 2004) ("Based on Article 14 of the Abbatoirs Law, only animals that pass ante-mortem and post-mortem inspections are approved for slaughter and dressing for use as edible meat. ... cattle of 0 months or older (all ages) are subjected to BSE testing during this post-mortem inspection.").
[39] The U.S. tested a little over 176,000 cows for BSE in 2004 and tested fewer than 700,000 cows *total* between June 2004 and March 2006, a period of almost two years. *See* News Release, Statement by USDA Chief Veterinary Officer John Clifford (DVM) Regarding Positive BSE Test Results (Mar. 13, 2006). Between 32 and 35 million cattle are slaughtered each year in the U.S., so the USDA has been testing approximately 1% for BSE. *See* USDA, Livestock Slaughter 2003 Summary (35.5 million cattle); Livestock Slaughter 2004 Summary (32.7 million cattle); 2005 Summary (32.4 million cattle). In contrast, the European Union countries tested more than 8 ½ **million** cows just in 2003, and tested over 6 million in just the first 9 months of 2004. *See* U.K. Food Standards Agency, Results of BSE testing in the EU, http://www.food.gov.uk/bse/facts/cattletest; Results of BSE testing in EU in 2004, http://www.food.gov.uk/bse/facts/cattletest2004.
[40] *See* Transcript of Secretary Mike Johnns Remarks to the National Cattlemen's Beef Association Annual Meeting—Denver, Colorado (Feb. 3, 2006), http://www.usda.gov/wps/portal (Home/Newsroom/Transcripts and Speeches) Release No. 0060.06.
[41] Draft Program Standards at p.20; Equine Species Working Group Recommendations to USDA, Recommendation #13 (May 24, 2005). *See also* http://www.horsecouncil.org/equine%20id%20website/AHC%20ESWG%20Microchip%20Paper%209.23.05.htm

[42] *See* Annalee Newitz, *The RFID hacking underground*, Wired, www.wired.com/wired/archive/14.05/rfid_pr.html.
[43] John Markoff, *Study says chips in ID Tags are vulnerable to viruses*, New York Times (Mar. 15, 2006).
[44] In a university study in the Netherlads, a group of scientists showed that it was possible to create a self-replicating RFID virus. Rieback, M.R., B. Crispo and A. Tanenbaum, Is your cat infected with a computer virus?, Vrije Universiteit Amsterdam, Computer Systems Group.
[45] *See* Draft Program Standards at p.20; Equine Species Working Groups Recommendation, Recommendation #13 (May 24, 2005))
[46] For example, an ad in a Swedish newspaper stated: "We offer a new chip service. We will change the ID number of the 'Kennel club' type chip according to your wishes. Inexpensive. Easy. Fast. Total discretion. Also sale of ISO programming units." Sveriges Storsta Morgontidning (Feb. 18, 1998).
[47] In 1998, ISO received a formal petition calling for revisions or suspension of the standards, and identifying multiple flaws in the ISO 11784/85 standard, including the lack of unique ID codes. *See* letter from Gosstandrat of Russia, Committee of Russian Federation for Standardization, Metrology and Certification, to Rudolf Zens, Secrteary, SC 19 (Mar. 2, 1998) at http://www.rfidnews.com/images/3-2-98.gif. See also The Controversial ISO 11784/85 Standard, ISO 11784/85: A Short Discussion, at www.rfidnews.com/iso_11784short.html
[48] *See* letter from Gosstandrat of Russia, Committee of Russian Federation for Standardization, Metrology and Certification, to Rudolf Zens, Secrteary, SC 19 (Mar. 2, 1998) at http://www.rfidnews.com/images/3-2-98.gif
[49] ISO 11784/85 "Standard" with Blemish: A discussion of the ISO standard for RFID: its provenance, feasibility and limitations at www.rfidnews.com/iso_11784.html (website last checked July 1, 2006).
[50] USDA, Integration of Private and State Animal Tracking Databases with the NAIS (released Apr. 6, 2006).
[51] GAO Report on Agriculture at p.7-9.
[52] Draft Plan at 11.
[53] 30 Tex. Reg. 8521, 8523 (Dec. 23, 2005).
[54] Presentation by Dr. Hillman, Executive Director of Texas Animal Health Commission (Feb. 16, 2006).
[55] *See* Draft Program Standards at 5 ("Unique individual animal identification is needed for tracking animals that are destined to be commingled with animals outside the production system in which they were born as they move through the production chain."); National Animal Identification System: Questions and Answers, United States Department of Agriculture, http://animalid.aphis.usda.gov/nais/newsroom/factsheets/nais_qa_factsheet.shtml at 7 (defining "commingling" as "an animal having contact with, or being inter-mixed with, animals other than herdmates from that animal's premises of origin.") (website last checked Mar. 11, 2006).
[56] *See* Draft Program Standards at 13 (listing an animal event code for reporting "animal missing").
[57] *See* National Animal Identification System: Questions and Answers, United States Department of Agriculture, http://animalid.aphis.usda.gov/nais/newsroom/factsheets/nais_qa_factsheet.shtml at 7 ("Q: If a person only shows animals or only takes them to trail rides, do they need to be identified? A: ... These animals will need to be identified.") (Mar. 11, 2006); Draft Program Standards at 13 (listing animal event codes for reporting an animal moved into a premises and animal moved out of a premises).
[58] The links are found at the bottom of TAHC's webpage on this issue. *See* http://www.tahc.state.tx.us/animal_id/index.shtml.
[59] For example, the link for the "NAIS Swine Working Group" is to a page by the National Pork Producers Council, the self-professed "global voice for the U.S. pork industry." *See* http://www.nppc.org/hot_topics/animal_identification.html.
[60] Draft Swine Program Standards, Pork Industry Identification Working Group (Sept. 15, 2005).
[61] Steve Stecklow, U.S. Falls Behind In Tracking Cattle To Control Disease, Wall Street Journal (June 21, 2006).
[62] Australian Beef Association, Submission to the Queensland Government Relating to the National Livestock Identification System Regulatory Impact Study (2005).
[63] http://www.mygamonline.com/gamweb/
[64] Animal Identification, Government Affairs Center, National Cattlemen's Beef Ass'n (Apr. 3, 2006) at http://hill.beef.org/newview.asp?DocumentID=15053
[65] Draft Plan at 9.
[66] *See* Animal Health Protection Act, 7 U.S.C. §§ 8301-8320 (Supp. 2005).
[67] *See* HR 3787, HR 3822, HR 3961, S 2070 & S 2008, 108th Congress (2004-05).
[68] *See* HR 1254, HR 1256 & HR 3170, 109th Congress (2005-06).
[69] 30 Tex. Reg. at 8525 (proposed 4 TAC §50.4).
[70] *Id.* (proposed 4 TAC §50.4(b)(8)).