

OBSERVATIONS OF THE WESTERN SECTION OF THE WILDLIFE SOCIETY AND THE WILDLIFE PROFESSION, 1990-2003

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“In the complex realm of natural resource management, no one has a franchise on the truth.”
Salwasser et al. 1997:286.

The Western Section of The Wildlife Society (Section) was started in 1954 (Howard 1989) and celebrated its 50th anniversary in 2004. For purposes of this special panel discussion at the Section’s 2004 Annual conference on its 50th anniversary and its many accomplishments, the later third of its history was arbitrarily defined to occur from 1990 to 2003. This period represents the Section’s maturation as a regional professional society when significant societal, political, and economic events occurred that irreversibly changed the Section. To document the Section’s accomplishments in this period, my paper is divided into 2 main subject areas. The first part discusses some of the major issues that faced the wildlife profession while the second part highlights the activities of the Section during this period. The paper closes with some conclusions about the Section and why it remains such an important organization for wildlife biologists in California, Nevada, Hawaii, and Guam.

KEY ISSUES WITH THE WILDLIFE PROFESSION IN THE 1990’S AND 2000’S

The period between 1990 and 2003 was marked by tremendous advances in technology. State-of-the-art technologies such as GIS, GPS, the Internet, satellites, computer hardware and software, handheld computers, digital imagery, remotely triggered cameras, bat detectors, genetics, DNA, and advanced radio-telemetry transmitters and receivers have forever changed the profession in a multitude of ways and are common tools used to various degrees by most wildlife professionals today, particularly younger professionals and those working in research and academia. A couple of these technologies bear

particular discussion today because of their relationships with the Section.

The Internet

In my opinion, the Internet has been the single greatest technological advance affecting the profession over this period because it greatly improved our ability to gather and share information, including data, documents, and expertise, that can be accessed instantaneously at any time and in any place. Wireless technology has made the Internet available almost anywhere. Many of our employers have made web sites their main source of information about what they do, where they’re located, and who their employees are. Many of the most well-known wildlife data sets such as the Breeding Bird Surveys and Forest Inventory and Analysis forest samples are easily downloaded from the web by anyone who wants these incredibly rich data. Along those lines, the California Department of Fish and Game (Department) has been developing web-based databases that would allow anyone to download many Department data sets on biological resources. Many state and federal wildlife and natural resource agencies have posted many of their publications and documents on the web so that these documents can be easily downloaded. For some government documents, it is no longer necessary to visit the library.

Another consequence of the posting data on the Internet is that essentially anyone can access complicated data on wildlife that requires training and knowledge to properly analyze and draw supportable conclusions. Many wildlifers remain justifiably skeptical about making so many data sets easily available because of the possible problems that could

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result from improper analysis and use. While I empathize with these concerns, the utilitarian benefits of sharing these data generally outweigh the risks. After all, the data managers have ultimate control of what data they post on the web.

Another consequence of the Internet and other computer technologies is that they make obsolete many of the traditional information sources we all know and love like paper copies of publications and data sheets, tape recordings of wildlife vocalizations, and photographic slides and prints. Digital versions of text, data, sounds, and images stored on computers are replacing file cabinets and boxes filled with paper, tapes, prints, and slides. Cardboard shoe boxes and file cabinets are now replaced with computers that are just electronic shoe boxes. Beyond the obvious benefits in conserving the trees and energy needed to produce paper if someone goes entirely electronic, there are other benefits in efficiency with storing, searching, and compiling information. If you're like me and enjoy sitting in a comfortable chair to read a paper-version of journal or report, you'll just have to print off that PDF file from your computer once you can find the folder and file.

Computer Advances

Advances in computer hardware and software are responsible for increasing the efficiency and complexity of our work. Word processing, publication production, data collection and use, statistical analysis, image processing, graphics, visual and aural communication, and information storage have all improved by quantum leaps in this period. Computers continue to decrease in size, weight, and cost while increasing in speed, complexity, and efficiency. All wildlifers should be more productive these days, and a scanning of the gradient of the thickness of the *Journal of Wildlife Management* over the years tends to support this increase in productivity with one measure of professional worth.

I can't help but mention something about electronic communications such as email. The days of phone calls and letters as the main source of professional communication are rapidly becoming passé. While a godsend for increasing communication efficiency at levels essentially unheard of some 15 years ago, it appears we sometimes emphasize electronic communications too much. It should be obvious to all of us that communicating to many professionals

and sharing information equally with all interested parties is a tremendous improvement in communication. At the same time, surfing the net for documents and data sets is replacing trips to the library to search dusty shelves and throwing quarters into copy machines. Along the same lines, the computer nerds are getting their revenge as we spend much of our time installing and upgrading the seemingly endless supply of new hardware and software and "troubleshooting" computer glitches.

Intellectual Advances

This period was marked by tremendous increases in knowledge and understanding based on advances in human intellect and knowledge. Every generation benefits from the collective knowledge from previous generations, and new knowledge is advanced based on intellectual foundations laid underneath our current work. The increased sophistication and complexity of current demographic, habitat-relationship, and economic models boggle my mind, and essentially make many university wildlife textbooks that I was educated with 20-25 years ago basically collectors items.

New analysis tools like Bayesian statistics, Akaike Information Criterion, spatially-explicit habitat models, null models, and other cutting edge methods professionally challenge those who have been working for a decade or two. These methods represent formidable knowledge challenges to mid- and late-career professionals who seem to spend more time on administrative and bureaucratic tasks. Older professionals essentially have to force ourselves to conduct research to employ these new methods if they are to keep pace with the young graduates produced by our great universities and colleges that are filling the few entry level jobs these days. If older professionals don't, then career moves to supervision and administration are logical steps because these jobs require less technical knowledge and require more knowledge about people management and institutional bureaucracies.

Professional training and development with conferences, workshops, training sessions, and symposia are major efforts for professional societies and employers as we all struggle to keep pace with these intellectual and technical advances. We really have no choice as true professionals but to take professional development seriously; maintaining our pro-

professional stature and credibility is at stake. Professional development and a solid ecological and natural history foundation in our university educations are recurring themes for this profession as evidenced by the many recent papers discussing these key issues (Bleich and Oehler 2000, Jahn 1998, Moen et al. 2000, Sparrowe 1995).

Today's wildlifers are focusing their research and investigations on more complicated questions like population demographics, effects of climate change, genetic identities of subspecies and populations, and habitat relationships modeling. This is only natural and logical, particularly for those in academia where cutting edge methods and knowledge translate into theses, dissertations, peer-reviewed papers and advancements in professional standing. It seems, however, for wildlife managers like me who work in government agencies that we still need more complete knowledge about the more traditional wildlife study areas such as food habits, habitat relationships, predator-prey relationships, land use impacts, and species' ranges and distributions because many management decisions are based on natural history information. The dearth of knowledge about impacts of wildfires to wildlife and the inability to rigorously quantitatively determine impacts and implement restoration efforts illustrated with the recent firestorms in southern California is a good case in point. Certainly there are exceptions to my observations as many natural history-oriented papers have been recently published by even some of our more dedicated and successful researchers but I maintain the trend away from these research areas is fairly obvious. There's probably no better way to observe this trend than to look at the titles of papers published in the western United State's oldest wildlife journal California Fish and Game. I think a major test of the overall scientific value of the natural history papers that dominated the 1950's and 1960's with those published over this period will be to look at the references made to these papers over the next decade or two.

Emphasizing A Few Important Species

Our profession still spends the vast majority of its time focusing on a few key species despite innumerable pleas to make biological diversity our conservation priorities (Thomas and Pletscher 2000). This focus is only natural given our university edu-

cations and natural proclivities as biologists. I'm confident a poll of everyone in this room will show a substantial majority of you are working or have worked mostly with these species: the spotted owl (*Strix occidentalis*), marbled murrelet (*Brachyramphus marmoratus*), California gnatcatcher (*Polioptila californica*), San Joaquin kit fox (*Vulpes macrotis mutica*), or desert tortoise (*Gopherus agassizi*). There are other species that currently dominate the professional landscape but in my experience, these are the "Big Five" species that dominated the wildlife conservation landscape in the Section in this period. This is perfectly predictable as it seems that each period of the Section's history has its group of species that dominate the period. For example, the Section's early history was dominated by game species such as mule deer (*Odocoileus hemionus*) and waterfowl, while the middle period seemed to be dominated by several species that were the first listed under the Federal Endangered Species Act such as the California condor (*Gymnogyps californianus*), peregrine falcon (*Falco peregrinus*), bald eagle (*Haliaeetus leucocephalus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*).

Emphasizing A Few Key Habitats

Without much doubt, wildlife conservation in the Section during this period were mostly focused on old-growth coniferous forests in the Sierra Nevada and northern California, coastal sage scrub habitat in coastal southern California, San Joaquin Valley habitats such as alkali scrub and annual grassland, and desert scrub habitats in the Mojave Desert of California and Nevada. Other habitats of lesser conservation emphasis during the same period included oak woodlands in California, riparian forests in California and Nevada, and freshwater, estuarine, and saltwater wetlands in all states and territories in the Section. It is relatively easy to see that the habitats receiving the most attention are those needed by the focus species for this period. I am glad of this fact because it shows that we haven't forgotten that habitat conservation is the wildlife manager's "Golden Rule."

Big Planning Efforts

Planning efforts centered on wildlife conservation took new dimensions in this period. These ef-

forts included the Sierra Nevada Ecosystem Project undertaken by the University of California at Davis, the Northwest Forest Plan and two iterations of the Sierra Nevada Conservation Framework by the U.S. Forest Service (USFS), the CALFED effort coordinated and implemented by a seemingly infinite number of federal, state, and local government agencies, the recovery plan for the northern spotted owl (*S. o. carina*), the Environmental Impact Statement for the California spotted owl (*S. o. occidentalis*) written by the USFS, the Natural Community Conservation Planning program implemented by the Department, and the West Mojave Plan implemented by the U.S. Bureau of Land Management which is the largest habitat conservation plan ever developed in the United States.

These planning efforts greatly exceeded the spatial and temporal scales of many planning efforts undertaken prior to the 1990's, and it seems as if tremendous amounts of money and staff resources have been spent on these efforts with relatively little gains in new knowledge about wildlife per se. Each of these efforts should be closely scrutinized to assess the amount of habitat conserved given their tremendous costs. We have, however, learned a lot about conservation planning and certainly added new acronyms and buzzwords to our professional lexicon.

Politics and Wildlife Work

Politics was very pervasive in wildlife work in this period. Politics, however, have played a significant role in the wildlife profession for many years (Arnett 1970). All Directors of the Department were appointed by the three Republican and single Democratic California Governors over this period, and all but the newly appointed Director, Mr. Ryan Broddrick, had no significant professional wildlife management background and training. We were honored to have Mr. Broddrick talk to us earlier this morning. It must be recognized that all Department Directors are appointed by the current Governor of California and must be confirmed by the California State Senate, and this has been the process for most of the last 50 years. Howard (this volume), however, points out that the Department's Director during the beginning of the Section, Mr. Seth Gordon, was appointed after a national search was done for suitable candidates.

Most of the significant listing decisions for threatened and endangered species such as the northern and California spotted owl, marbled murrelet, northern goshawk (*Accipiter gentilis*), and Pacific fisher (*Martes pennanti pacifica*) have been criticized and scrutinized by those opposing the decisions on both sides as being politically motivated despite considerable biological evidence to support the science behind the decision. These examples of the mixing of politics and biology demonstrate the convergence of wildlife conservation and human dimensions that several authors have already noted (Arnett 1970, Leopold 1970, Salwasser 1995).

Shifting From Game to Nongame Species

I think it's time we honestly acknowledge that the wildlife profession, at least in the Section, is now dominated by professionals focused primarily on management and conservation of nongame species, primarily species with some level of special legal status. A quick review from this period of a program from a Section Annual Conference or an issue of the Section's Transactions or a poll of wildlife biologists working for the larger federal and state wildlife agencies amply supports this conclusion. A particularly significant paper in that regard is that of Starker Leopold (Leopold 1970) where he notes that successful wildlife conservation in the era of rapidly expanding human populations and concomitant habitat changes depends upon including nongame species in wildlife management efforts. As an employee of the Department continuously over the last 12 years, I've observed this shift within the one government agency legislatively mandated to protect California's public trust wildlife resources. This shift also matches the perpetual decline in the number of sportsmen in California.

We must not forget, however, that there are those in this profession whose primary responsibility is to manage game species, primarily due to regulatory necessities, but they are in a decided minority in the Section today. If the declines in hunters I'll refer to later are mirrored by declines in the number of students entering our universities to study wildlife conservation who also hunt and fish and the number of jobs available for new employees dealing with game species also declines, then it should be evident that professional interest and expertise with game spe-

cies management will decline to where it will become very difficult to hire biologists schooled and interested in game species management. I wonder what Aldo Leopold would think of this phenomenon. This trend away from an emphasis on game species started in the 1970's and 1980's with increased emphasis on nongame species management, community ecology, habitat relationships models, and laws and regulations dealing with impacts of land uses to biological diversity as noted by Leopold (1970). The passage of the National Environmental Policy Act in 1970, the Clean Water Act in 1972, the federal Endangered Species Act in 1973, and the National Forest Management Act in 1976 were major motivations for this change in management emphasis.

Increasing Roles For Women In The Wildlife Profession

The roles of women in our profession expanded greatly in this period. Women were appointed as the first Directors of the U.S. Fish and Wildlife Service (FWS) (Ms. Jamie Clark) and the Department (Ms. Jacqueline Schafer) in this period, and Dr. Diana Hallett was elected to serve as the first female president of The Wildlife Society (TWS) in 2002. Women are obviously increasingly important in our profession, and are becoming more prominent as colleagues, co-workers, supervisors, and managers. Without any membership figures from the Society to support my observations, many of us with 20 or more years in the profession readily note this change.

Population Changes

There have been tremendous increases in human populations in California, Nevada, and Hawaii during this period. According to the U.S. Census Bureau, California's population grew from 29.8 million people in 1990 to 35.3 million people in 2002, an increase of 18.4%. Between 1990 and 2000, human populations grew 66% in Nevada and 9% in Hawaii. California had a population of 12.5 million people in 1954, the Section's charter year. Just imagine how different our jobs would be today if California only had one-third the people it has now.

These cascading increases in human populations have lead to irrevocable losses of wildlife habitat. Between 1990 and 2003, a total of 1.6 million single-family and multiple-family housing units were built

in California, and almost 4.7 million units have been permitted since 1975. Between 1940 and 2000, California lost 10% of its undeveloped, private forestlands to development, 10% of its rangelands, and 23% of its agricultural lands (California Department of Forestry and Fire Protection 2003), and an estimated 8.8 million acres or some 20% of California's forestlands have been lost between 1907 and 2002 in California (U.S. Forest Service 2002). These losses, however, seem trivial compared to the 90% losses estimated in wetlands and riparian forests since the Gold Rush in the 1850s.

Society's Changing Attitudes

There were changes in society that affected society's view of wildlife management, and a couple of important events typify this changing view. The passage of Proposition 117, the so-called Mountain Lion Initiative, on 5 June 1990 was a clear and convincing message from California voters regarding their views that management of a charismatic large predator was best left to the voters instead the professional wildlife biologist. The controversy over planted Canada lynx (*Lynx canadensis*) hair samples by two TWS members in 2001 and 2002 raised public suspicions about our professional credibility (Thomas and Pletscher 2002) that may take years to erase.

More people than ever live in urban or suburban environments, and fewer people live on farms. People spend more time in cars, surfing the Internet, watching television, and engaged in passive activities like watching sports or desk work than ever before. While I suspect the number of people living in rural areas is increasing simply due to increasing populations, most of these people are ex-suburbanites fleeing the crowded suburbs that are either commuters who clog our freeways or retirees seeking a quieter lifestyle.

There are fewer people than ever engaged in hunting and fishing. According to the Department, the number of hunting licenses sold in California in the State's 1990-91 hunting season was 368,872, and in 2002-03 the number of licenses declined 14% to 316,878. The number of fishing licenses in California declined 8% from the 2,358,551 sold in 1990-91 to 2,175,406 sold in 2002-03. These are some of the lowest total license sales ever recorded in California, and these declines are especially alarming given

the fact that human populations grew more than 18% over the same period. Fewer sportsmen and fewer true “country folk” means that our jobs as wildlife professionals are different than they were in the Section’s early days when more people were connected to the land through farming, ranching, hunting, and fishing. As Howdy Howard said earlier this morning, fewer people know and understand that death is part of life for wild things, and wildlands can provide extracted natural resources as well as house wildlife. It would be interesting to see how Aldo Leopold would have written his famous “The Land Ethic” (Leopold 1966) essay today.

The Wildlife Profession in Today’s World

On the somewhat brighter side, human development, habitat loss, and a changing society have resulted in more work for wildlife biologists. Wildlife biologists are now engaged in a multitude of conservation and management efforts involved with environmental impact analysis, land acquisition, habitat management and protection, land use planning, public relations, endangered species protection, and game species management. When the Section started 50 years ago, members were either employees of a couple of state and federal natural resource agencies like the Department and USFS or working at universities such as U.C. Berkeley or U.C. Davis as professors or graduate students. Today, Section members work for almost every government agency involved with natural resource management, non-governmental organizations, academic institutions, environmental consulting firms, and private companies such as timber and mining companies.

There were several significant threatened and endangered species listings done in this period. The northern spotted owl was listed as threatened by the FWS in 1990, and the marbled murrelet was listed as threatened in 1992. In 1993, the California gnatcatcher was listed as threatened by the FWS. These three species have had major impacts on natural resource and wildlife conservation in the Section. Many of the state-of-the-art conservation planning strategies previously discussed directly resulted from listing of these species. With some irony, however, the listings of the owl and murrelet affected timber production from public and private forestlands to various degrees, while the gnatcatcher listing affected housing construction, the industry most reli-

ant on the timber produced from owl and murrelet habitat.

It is worth noting that there are some positive developments for wildlife. Stressing negative developments for wildlife are favored by some (Noss 1995), while others identify some positive developments as an offset (Salwasser et al. 1997). As with everything, wildlife conservation in this period in the Section has been a mixed bag. More habitat than ever is publicly-owned and protected from rampant development and profit-driven natural resource extraction. More than 29% or 30.6 million acres of California are owned and managed by the Department, California Department of Parks and Recreation, USFS, and National Park Service. These agencies are acquiring more lands each year to expand these holdings. The Wildlife Conservation Board, the land acquisition arm of the Department, for example, approved or completed habitat acquisition and restoration projects for 321,950 acres between 2000 and 2002 (Smith 2001, Cundiff 2002). In 1994, the passage of the California Desert Protection Act resulted in major expansions of National Parks, National Monuments, and Wilderness Areas in California’s deserts. Three major components of this sweeping legislation were the creation of Death Valley and Joshua Tree National Parks from their previous designations as National Monuments, and the creation of the 1.4 million-acre Mojave National Preserve from public lands previously managed by the U.S. Bureau of Land Management.

There are more regulations than ever before protecting wildlife and their habitat, and recent perusal of the California’s 2004 Fish and Game Code and 2004 Forest Practice Rules demonstrates this fact. In addition, the California Environmental Quality Act, California Endangered Species Act, as well as federal versions of these laws require detailed discussion and analysis of impacts to wildlife from human developments. Mitigation requirements result in habitat acquisition and restoration that continue to protect more habitats. There are, however, more plant, fish, and wildlife species listed as threatened or endangered than ever. Listing does entitle them to more restrictive habitat protections and additional funding for research, monitoring, and habitat protection. As of 2002, the FWS had listed 1,263 species of plants and animals as threatened or endangered.

While previously acknowledging that considerable habitat losses that have occurred in the Section's boundaries over the last century, habitat gains have occurred. For example, forestland has increased by more than 850,000 acres in California between 1987 (39.4 million acres) and 2002 (40.2 million acres) (U.S. Forest Service 2002). The amount of forestland, however, is some 8.8 million acres less than that found in the early 1900's. Wetland acreages have increased due to cooperative conservation efforts involving government and private partners. For example, there are four waterfowl habitat Joint Ventures occurring in the Section boundaries (Central Valley, Pacific Coast, Intermountain West, and San Francisco Bay) where increasing acreages of wetland habitats are an actively pursued goal requiring millions of dollars from public and private cooperators.

There is also more money spent to conserve, manage, and protect wildlife than ever. For example, the Department's budget has steadily increased almost every year, even in good and bad budget years. The Department's budget for the 2003-2004 Fiscal Year was an all-time high of \$279 million. Some of the increases are due to increased salaries, benefits, administrative costs, and inflation, but substantial proportions of these budget changes are from newly created or expanded and enhanced programs that benefit wildlife. Recent budget cuts, however, have caused substantial changes in programs of state and federal wildlife agencies, but land acquisition programs continued as voters in California, at least, continually supported bond acts that provided billions of dollars to acquire and protect wildlife habitats. The 321,950 acres acquired or restored by the Wildlife Conservation Board between 2000 and 2002 required expenditures of \$383.1 million of public funds (Smith 2001, Cundiff 2002).

These few positive developments might lead us to conclude that the Section's wildlife resources are better off today than ever. Yet, there are probably very few wildlifers who would make this conclusion. I do think, however, that almost everyone of us here today would conclude that managing wildlife is more complicated than ever before. In another ironic twist, the increasing complexity of our jobs parallels these seemingly beneficial increases in opportunities to conserve wildlife in the face of human impacts.

The roles and responsibilities of wildlife biologists are changing. To be an effective professional, Salwasser (1995) concluded that wildlifers must combine wildlife biology with human dimensions (e.g., economics, sociology, and politics) when planning management activities. There has also been a convergence of conservation biology, wildlife biology, and ecology as demonstrated with the northern spotted owl recovery effort (Thomas and Pletscher 2000). This convergence has led many wildlifers to professionally recast themselves as conservation biologists. Many of us have resisted the pull to become "multi-disciplinary" but I think we have no choice in this regard if we are to maximize our success.

Economic Reality

The United States economy underwent an almost unprecedented economic expansion and subsequent contraction in the 1990s. This economic prosperity had many effects on wildlife. Economic expansion led to land development and habitat loss, yet increased tax revenues led to government expansion of wildlife programs and land acquisition. I doubt that California voters would repeatedly approve billions of dollars of bond monies to purchase wildlife habitat and parks if the state's economy wasn't one of the world's largest. Increased efficiency and technology have led to improvements with air and water quality. I've already discussed how technological improvements that boosted the economy have made our jobs more efficient. There are stresses, however, with the inherent conflict between resource destruction and a high standard of living. More cars mean more oil must be pumped and roads built, and move-up housing requires wood, steel, stone, and concrete. More houses mean increased needs for water, electricity, and natural gas. Wildlife habitats are adversely affected as homes are built and resources extracted to support housing construction.

World Events

This period was marked by several events of historical proportions, and I had my previously narrow world view irreversibly changed. As a child of the 1960s, I grew up in an era when activists, television and print media, and popular musicians extolled that world peace and harmony seemed possible, gov-

ernments and corporations weren't to be trusted, social and economic justice was needed, and environmental protection was needed to save the planet from collapse. My world view, however, was forever changed in the 1990s.

The United States economy underwent an incredible expansion and subsequent contraction almost unparalleled in the country's history. Budgets of wildlife agencies underwent parallel but lagging booms and busts. Southern California was decimated by huge wildfires in 1993 and 2003, and the Oakland and Berkeley hills were ablaze during the World Series of 1991. Billions of dollars of property were damaged, dozens of lives were lost, and hundreds of thousands of forests and shrub lands were burned to bare soil from these catastrophic fires. Some responsibility for these fires can be placed with the natural resource agencies, governments, and land use decision makers who, for a multitude of reasons within and beyond their control, allowed forests and shrub lands to become overstocked and homes to be constructed within and adjacent to fire prone wildlife habitats. Mountain lions killed two people in 1994 and one person in 2004. The notion that humans were immune from nature's death and destruction should have been dashed forever.

The attacks by Islamic terrorists on 11 September 2001 on the World Trade Center and Pentagon awakened the American people to horrors and hatred that much of the rest of world deals with every single day. The "War on Terrorism" replaced the "War on Poverty" and the "War on Drugs" as front page news. It seemed to me, at least, that environmental protection was not that important any more even though I dedicated my college education and professional career to achieve this elusive and altruistic goal. The significance of these world events, of course, varies among us all.

CHANGES IN THE WESTERN SECTION

The Section underwent substantial and irreversible growth and change during this period, most of it directly or indirectly due to the previously identified issues. These changes resulted in the full maturation of the Section into an extremely viable professional organization for wildlifers in the Section.

The Section Has Taken Full Advantage Of Technological Advances

The Section has taken full advantage of technological advances to the point where we are now a "Cyber Section." The Section's web site is now the primary vehicle for all Section activities and information. Our membership list is there so anyone with the password can get contact information of all current Section members. The Section's newsletter is posted there as are the Section's correspondence and policies. The jobs page is consistently the most visited area of the web site. This year, the Section instituted web-based voting for the 2004 President-Elect. All the professional development activities are posted there, and people can easily register on-line for these activities. The Section uses list-servers for communications among members and the Executive Board. The Board's list-server is the backbone of the Section's business operations these days. Unfortunately, some Section members are unable or choose not to take advantage of these new technologies, and the Board continues to balance the need for paper products by this decided minority with the cost and time efficiencies of fully electronic products. It is only natural that as technology improves, more of the Section's business will be handled electronically so members should prepare for the day when the Section's paper products must be printed from your own computer. The Section has set the standard for web sites of the various organizations within TWS, and our web master, Bill Standley, and the Section's Chair of the Electronic Communications Committee, Barbara Kermeen, deserve considerable credit for their cutting edge work.

The Section's Rich History Of Intellectual Advances

The Section has a rich history of intellectual advances evidenced by the compendium of peer-reviewed papers published in the Section's annual Transactions. There have been 37 volumes of the Transactions since the publication of the first volume in 1966, and anyone reviewing the titles and abstracts in chronological order cannot miss the intellectual contributions they represent. In another coup, the Section was the first Section to publish

annual Transactions, and other Sections have followed our lead (Yoakum 1989). In addition, several Section members are world-renowned experts in their fields, and some Section members have prolific publication records with many seminal papers, books, and symposia proceedings to their credit. Their work has bolstered the scientific and professional stature of the Section.

Along the lines of publishing the Transactions, there have been 50 volumes of the Western Section's newsletter. The newsletter provides a written history of the Section's rich legacy as it reports some of the most significant issues the Section has faced as well as the full cast of characters who served as Section officers.

Professional Development Is Strong

The Section has an extremely active professional development program that provides critically needed training for the Section's membership. Professional development is a perpetual need for wildlife professionals as well as students seeking employment in this field (Bleich and Oehler 2000, Moen et al. 2000), and the Section has provided this valuable service to Section members for decades. The list of workshops, symposia, and conferences sponsored by the Section between 1990 and 2003 is impressive indeed. The breadth of topics is incredibly diverse including management of rangeland wildlife habitats, wetland delineations, vernal pool ecology and management, ecology and management of California riparian ecosystems, training on the use of the California Wildlife Habitat Relationships System, natural history and management of bats, two conferences on wildfires and wildlife impacts, California watershed conservation, wildlife habitat restoration, brown-headed cowbird (*Molothrus ater*) research and management, wildlife habitat relationships and management of Great Basin and Eastern Sierra Nevada shrubland ecosystems, red-legged frog (*Rana aurora*) surveying and ecology, ecology and management of dead wood in western forests, sensitive amphibians and reptiles of the southern Sierra Nevada, invasive species, and burrowing owl (*Athene cunicularia*) science and management. In addition, the Section was the local sponsor of the 2001 Annual Conference of TWS where 1800 wildlifers from around the world participated in the wildlife profession's single greatest professional development opportunity.

Of particular note for the Section's professional development program is the long record of annually offering Dr. Jon Hooper's workshop entitled "Natural Resources Communication Workshop." Jon has been giving this workshop, that was started with Lou Nelson, for almost 30 years, and the Section recognized Jon's contributions to professional development by awarding him the Section's most prestigious award, the Raymond F. Dasmann Professional of the Year, in 2002.

Over this period, there have been innumerable technical papers and plenary sessions at the Section's Annual Conferences as well as papers published in the Transactions that present case histories and discuss many of the most significant conservation planning efforts that have occurred within Section boundaries. The papers and presentations are incredible contributions to professional development.

Without a doubt, the increasing diversity of the employers of the Section's members and the missions of these employers means that the Section must mirror that diversity in professional development. Our workshops, symposia, technical sessions at conferences, and our publications certainly reflect the professional development needs of our members. The days of field workshops teaching Section members about fencing and guzzler development for mule deer and California (*Callipepla californica*) and mountain (*Oreortyx pictus*) quail are now replaced with classroom workshops on Bayesian statistics and classroom and field workshops on survey techniques for nongame and threatened and endangered species.

Promoting Diversity Within The Section

The Section is fully committed to promoting diversity in the wildlife profession, and this commitment was particularly evident in this period. There have been five women Presidents of the Section (Judie Tartaglia, Ann Huffman, Marti Kie, Linda Spiegel, and Catherine Hibbard), and four of them were elected between 1990 and 2003. There will be more women elected President in the future. The plenary session at the 2002 Annual Conference in Visalia focused on the increasing role of women in natural resource management, and the Section's Executive Director (Barbara Rocco) is a woman. The current Executive Board has solid representation by women, and it appears that women are con-

tinuing to play an ever increasing role in the wildlife profession.

Are We Having An Identity Crisis?

Competition for members exists with other professional societies, particularly the Society for Conservation Biology (SCB). I think this has led to some of the younger wildlife professionals joining the SCB instead of or in addition to TWS. Several authors (Noss 1998, Thomas and Pletscher 2000) have concluded that wildlife professionals were the first true conservation biologists going back to the early days of the wildlife profession. Yet, there is considerable duplicity in the advocacy and science goals of the two organizations. There is considerable difference, however, in the breadth of papers published in journals of the two Societies as the SCB's journal Conservation Biology publishes papers with a far greater breadth of taxa and conservation issues. What sets the TWS apart is its organizational structure of chapters, sections, and the parent organization, and its long-standing tenure as the professional society of wildlife biologists. A well-rounded professional should have membership in more than one professional society, however, so membership in SCB and TWS fits that bill. In my opinion, TWS gives the wildlife biologist the most focused information on conservation and management issues of greater relevance to them in their daily jobs, although that obviously depends on what your job entails.

It appears to me as if there's been a decline in our membership with consultants and some federal agency biologists, particularly with the FWS and U.S. Bureau of Land Management. With very few exceptions, lack of Section involvement by FWS biologists has been particularly noticeable. In an effort to encourage Section membership and following a verbal commitment by the FWS Regional Director at our 2000 Annual Conference to encourage Section membership and involvement, the Section wrote a follow-up letter to the FWS regarding FWS biologist membership in the Section. This effort appears to have largely failed as FWS involvement remains relatively low compared to other state and federal agencies. Currently, most of our professional membership support comes from the Department, USFS, and the private sector. The participation by academics remains relatively consistently strong with several professors and faculty as prominent mem-

bers plus an untold number of graduate and undergraduate student members.

It's interesting to note that the Section remains largely a TWS Section of professional agency and private sector biologists, even with relatively significant contributions by a few university professors and faculty. Academics tend to dominate the other TWS Sections. It's clear to me that the prominent role of agency and private sector biologists helps spur the success of the Section because they work with on-the-ground conservation and management issues and have a better idea of what support biologists need regarding professional development and advocacy.

The Section Is Now A Business

The Section is now a full-fledged business and must be operated as such because our membership has grown as have their expectations for member services. Our clients are our members and our professional development opportunities and communication efforts are our products. Our business development goals are to retain our current member clients and increase sales by adding new members. Since its humble beginnings some 50 years ago, the Section has undergone sustained growth in membership and revenues. In 1954, there were 66 members. In 1988, there were almost 300 members, 404 members in 1991, 770 members in 2002, and more than 1100 members in 2004. It is interesting to note the general decline in TWS membership since 1996, a decline most pronounced with a dues increase in 1998 (Decker 2004). The Section's Board has resisted a dues increase for years because dues contributes generally <10% of the Section's budget, and they generally recognize raising our dues will contribute relatively little extra income compared to the possible resulting loss of members.

The Section has a strong trend of increasing income that matches our increased membership. Financial records indicate that bank balances grew from \$122 in 1954, \$14,750 in 1982, to almost \$69,000 in 2002. These values are balances left after annual expenses, and one or two financial set-backs can erase these balances very quickly. Financial conditions worsened in 2004 due to some costly professional development efforts and economic downturns and cutbacks in wildlife agencies but the long-term trend will undoubtedly continue once the Section re-establishes its financial balance.

In the 1990s, the increased emphasis with Section's business operations began stressing abilities of the volunteer Section Board members to support a more active organization that provides multiple benefits to its members. Discussions to hire professional staff for the Section began in 1989 and continued in earnest in 1990. It took over three years, but in May 1993 the Section hired the first Executive Secretary, Bill Hull, who worked part-time through 2000. The primary duty of the Executive Secretary was to provide professional development opportunities, including running the Section's Annual Conference. In late 2000, the Section's second Executive Secretary, Barbara Rocco, was hired. The Section enjoyed two record-breaking financial years in 2001 and 2002, and the 9-year continuity of solid financial conditions with a part-time Executive Secretary prompted the Section to hire Barbara as full-time in 2003.

The business emphasis of the Section's leadership continues to this day. The Section's membership overwhelmingly approved a bylaw change in 2003 that re-organized the Section by streamlining the Executive Board and expanding duties of the Executive Secretary and made the position that of the Executive Director. The two major benefits of the reorganization were (1) improving the Section's business operations by giving the Executive Director more responsibility with administration, member services such as publishing the newsletter, and business development, and (2) making it easier to recruit and retain volunteer Executive Board members by transferring more duties to the Executive Director. These changes allow the Section's Board to focus more on providing better products and services to the members.

Advocacy And Professional Development As Section Goals

From the Section's early days to this day, there has always been a challenging balancing act for the Section between emphasizing professional development which directly benefits its members and undertaking advocacy to conserve and protect wildlife resources that ostensibly benefits these resources and our employment and careers. The two goals are certainly complementary, yet the ability of the Section to successfully achieve both goals has perpetually stressed the abilities of the Board. Both goals

require considerable commitments by the Board such that generally pursuing one goal adversely affects our ability to achieve the other goal. Of the two goals, advocacy has always been the most contentious because the conservation issues the Board and the Conservation Affairs Committee address are generally the most controversial and wide ranging issues.

Between 1990 and 2003, the Section was actively engaged in developing position and policy statements on many issues including licensure of wildlife biologists, the California Wildlife Protection Initiative of 1990 otherwise known as the "Mountain Lion Initiative", recovery plans for the giant garter snake (*Thamnophis gigas*) and California red-legged frog (*R. a. draytonii*), development of the new Merced Campus of the University of California, vegetation management by the U.S. Bureau of Land Management, the USFS's Sierra Nevada conservation framework, control of the southern watersnake (*Nerodia fasciata*), and legalizing domestic ferrets (*Mustela furo*) to name a few. The Section's record of position statements was strong even before 1990 so the Section has a long standing history in this regard.

A very significant advocacy issue that the Section addressed was the licensing of wildlife biologists in California; the Section developed two resolutions in 1990 and 1991 as responses. At that time, there was a bill drafted in the California State Legislature requiring any wildlife biologist to be licensed like a professional engineer, registered professional forester, attorney, or doctor if the biologist engaged in work involving environmental impact assessments associated with the California Environmental Quality Act or other state laws with roughly equivalent regulation and environmental review of impacts to wildlife. Licensing would have required testing, certification or licensing, and a continuing education program for wildlife biologists to acquire and maintain a license.

Many Section members were justifiably concerned about the ramifications of this bill, and Section quickly reacted to the proposed legislation by producing two resolutions. The Section generally supported the legislation and offered that the TWS's certification program was a suitable starting point for a licensing program. Those already certified by TWS breathed sighs of relief while uncertified bi-

ologists gulped. The Section, however, probably could have reaped financial benefits with continuing education, and there would have been some economic benefits to private sector biologists who were licensed. The obvious protections for our profession and need for our professional expertise would have been other benefits to licensing. In the end, the Legislature never adopted the law and the situation is back to the status quo.

Combined with the record for valuable workshops, conferences, and symposia, these position statements demonstrate the overall value of the Section to wildlife professionals within its boundaries. Needless to say, each Section member has their own opinion about what should be the Section's priorities, and the Section's leadership have certainly been receptive to all those willing to advance their priorities. I fail to see anything in the future, however, that indicates any waning in the perpetual challenge of juggling these two goals. After all, even TWS recognizes the value of the two goals by employing a Policy Director who addresses advocacy and a Program Director who organizes and leads efforts to run the Society's Annual Conference each year.

The Pack Mentality Or Belonging To A Group

An often overlooking benefit of the Section is that of collegiality and group identity. The Section, in my opinion, benefits the profession because its members all have equal standing in the profession. Membership in the Section and participating in its activities puts all wildlife biologists on equal footing as colleagues. This breaks down self-imposed barriers regarding employers, conservation perspectives, and professional interests. The Section treats all biologists equally whether you work for government, academia, the private sector, or an NGO. The benefits of this professional equality cannot be overstated, and I hope that Section members see the same benefits.

CONCLUSIONS

The 50-year history of the Western Section parallels that of wildlife profession. Names like Aldo and Starker Leopold, Paul Errington, Frank and John Craighead, and Henry Mosby should be well known to all of us. The Western Section has its own legends, many of whom have participated in the 50th anniversary celebration. The contributions of the

Section to the wildlife profession and the parent Society over its 50-year history are many and profound.

Between 1990 and 2003, the Section evolved from a volunteer-based organization into a professional organization with hiring of an Executive Secretary and subsequently an Executive Director. Our budgets have gradually and consistently increased to the point where we are a full-fledged business and must continue to operate this way. The Section has taken full advantage of technological improvements with its highly successful web site and list servers. The advantages of using technology clearly benefit the Section's operations through time and cost efficiency.

The Section remains the preeminent professional organization for wildlife professionals in California, Nevada, Hawaii, and Guam despite several competing organizations, budget cuts in government agencies that have affected participation and membership, and economic downturns that affected private enterprise and tax revenues.

Many of the perpetually challenging issues like advocacy, professionalism, professional development, information transfer, resource conservation, Section organization and operations, and maintaining a viable organization carried over from earlier periods and continued into this period. It is safe to assume that these issues will remain central to the Section's operations over the next several years.

The Section remains a professional force to be reckoned with because of our professional organization and operations, more than 1,100 members, and commitment to professional development and resource conservation. Other organizations know of our successful track record and continue to use our organization for co-sponsoring workshops and symposia. That alone speaks volumes about the Section's abilities, and for that reason alone and the many I've previously noted, we should all be extremely proud of the Section and being a member of this incredible organization. I am extremely proud of the Section, and as a retired member someday I intend to sit back and watch the next generation of leaders continue to evolve the Section into an even more potent professional organization than it is today.

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