Field Work

Tree Swallows. On April 13, 1992, Ken Stromborg introduced David Allen to Tom Custer. Custer had been working with Stromborg for decades. He and his wife, Chris Custer, had been working together for years on field studies of birds throughout the country. The Custers explained to Allen that they wanted to start a tree swallow study on the Fox River. The birds were easy to handle, did not abandon nests easily, and fed on insects whose larvae emerged from sediments. Tree swallows were an excellent species for measuring the amount of PCBs entering adults, eggs, and fledglings, as well as any injuries that might result. Allen's initial job was to find 8-10 sites along the Lower Fox River, as well as 1-2 clean sites away from the river, where wooden swallow boxes on steel poles might attract colonies of tree swallows.

Plus, Allen was involved in field study design again, just like in graduate school. What hypotheses did they wish to test? What measurements would be necessary to test hypotheses? How many measurements would be needed to find signals in the noise? How many tree swallow colonies could they find, and how many nests would make a colony worth studying? How and where could they build artificial nest colonies near the Lower Fox River and near control sites not contaminated with PCBs? Soon, Allen was exploring every inch of the Lower Fox River looking for promising tree swallow study sites. He also explored much of Lakes Winnebago, Buttes des Mortes, Winneconne, and Poygan for control sites. He had another good reason to drive four-wheel-drive trucks, hike secluded areas, and canoe the river and lakes. He spent countless hours over many weeks exploring the waterways and talking to property owners.

Allen also spent many hours driving steel poles and mounting wooden tree swallow boxes at Arrowhead Park next to P.H. Glatfelter, on Kidney Island downstream of Fort Howard, and at most of the locks and dams, owned by the Army Corps of Engineers, in between. He also erected an artificial colony on a particularly beautiful and secluded corner of Lake Poygan. For several years, he monitored all of these sites until they had established stable tree swallow colonies along the Lower Fox River, Green Bay, and Lake Poygan.

Then, the Custers taught Allen how to keep track of when eggs were laid, how to switch eggs between clean and contaminated sites, and how and when to take eggs and nestlings for analyses. They taught Allen how to collect insect samples from the field and from guts, and how to capture adult swallows for blood samples. They even taught him how to dissect embryos from tiny eggs to collect even tinier liver samples, which they froze in liquid nitrogen for enzyme analyses.

For several years, Allen helped the Custers monitor colonies, collect samples, record data, decide on physiological, histopathological, and chemical analyses, explore statistical techniques, and publish results. It was a wonderful combination of mental and physical labor, and of field, laboratory, and office settings. Allen was tempted to dedicate himself to this kind of work as his main contribution to the damage assessment.

Double-crested cormorants. On April, 27, 1992, Stromborg and Allen headed to Spider Island. Once the boat was launched, Stromborg showed Allen the LORAN coordinates and buoys that marked the treacherous path to the island between shallow rocks. At the island, they then filled a wooden crib with rocks so that they could safely anchor the boat for the season. Then, multiple trips between the boat and the island with stakes and other equipment — being especially careful not to tip over while wearing the full-body floatation devices that Stromborg called "slow death suits."

Allen and Stromborg had an early disagreement about the boat. Stromborg worried about failure of the automatic bilge pump below the deck, so he removed the cover plate in order to wiggle the wires in any emergency. He also plugged the self-bailing ports to prevent water from leaking onto the deck from the stern when anchored in swells. Allen complained that they were likely to sink the boat since water still topped the transom at times and would drain through the deck above the pump instead of out the stern. It took a few weeks to settle the dispute. The first evening with waves over four feet, Allen changed the configuration while Stromborg was otherwise occupied. Later that night, Stromborg saw the water coming over the transom, rolling harmlessly over the deck cover that Allen had replaced, and flowing out the stern ports in the transom that he had reopened. Stromborg was mildly irritated with Allen's unilateral action but relieved the boat was still afloat after most of a night of banding on a windy night.

One year, Allen was assigned to take out particularly aggressive gulls. Allen was elated that their state and federal permits allowed him to bring his .22 WMR bolt action rifle to the island. He only had to shoot the two most aggressive gulls before the rest gave up on following people through the cormorant colony to pick off unguarded eggs. Tom Custer said one of the bullets went right through the heart of the gull. Allen was more amazed that they were even allowed to shoot migratory birds on national wildlife refuge lands. A few years later, Stromborg had an even better shooting adventure, chasing down waterfowl with a shotgun from the front of the Aquasport while Tom Custer drove — to confirm PCB levels above tolerance levels set by the Food and Drug Administration.

Allen also loved the chance to witness rare wildlife events. Once, Allen and Stromborg noticed an island on Lake Michigan that seemed completely out of place. Stromborg checked the LORAN and the charts to make sure water depths were sufficient, then turned towards the "island." It seemed to recede as the boat approached! Then it split in two. Stromborg and Allen wondered if it was a mirage. More throttle solved the mystery. A myriad of oldsquaw (now called long-tailed ducks) were feeding on a countless multitude of mayflies emerging from the lake. Allen had never seen a single oldsquaw, especially on the Great Lakes. Northern Lake Michigan was barely on their migratory route from the Atlantic Ocean to northern Canada. Yet, here were as many ducks as he had ever seen in one place — nearly all of them a new species for him.

Allen occasionally regaled his former U.S. EPA colleagues with stories of his adventures. Two of them, Linda Holst and Amy Pelka, joined Stromborg and Allen for a taste of field work. Allen was greatly amused by Holst's face at 4 a.m. after banding hundreds of cormorants on Spider Island, her hair disheveled and her clothes caked. She pleaded, "Do you think Ken will let us go home soon?" Allen told her the sun would drive them off the island soon enough. Allen's EPA colleagues never returned, though they remained important EPA allies in the coming years.

Stromborg also introduced Allen to Lou Sileo at the National Wildlife Health Center in Madison and Bill Karasov at the U. of Wisconsin at Madison. Sileo was a wildlife pathologist with a PhD and a DVM and another of Stromborg's Patuxent cohort. Karasov was a professor of physiological ecology in the Department of Forest and Wildlife Ecology. Sileo showed Allen around his facility, including the tight isolation building for the bio-safety level 3 laboratory, where Allen had to shower and wear special clothing to pass through its air pressure-controlled entrances. Karasov arranged for Stromborg and Allen to give lectures at his graduate classes about the science they intended to pursue for the Green Bay damage assessment. Stromborg and Allen also met with Karasov and Sileo to discuss injury studies for the damage assessment, including the possibility of experiments to unravel questions about crossed bills in double-crested cormorants.

Nemadji River. After a few months at Fish and Wildlife, Allen was adapting to his new routine, which was marvelously dominated by field work. On Tuesday, June 30, 1992, though, he would have a chance to catch up on some paperwork in the Green Bay office. The spring cormorant work was coming to an end, and most of the tree swallow work had not progressed far enough to be time critical.

He had just about finished his bagel and coffee from Sue Ann's Bagels when Stromborg swept into Allen's cubicle. He said the radio was reporting a train derailment and spill on the Nemadji River near Superior, Wisconsin. "We better find out if it's as serious as it sounds – and also whether we should launch any emergency actions under the natural resource damage assessment regulations."

Allen could tell that Stromborg had already made up his mind that Fish and Wildlife, meaning Allen, should head up to the far northwestern part of the state to see what was up. Allen was skeptical but decided to call his old EPA colleague, Steve Bradbury, at EPA's research lab in Duluth, Minnesota — just across the border from Superior, Wisconsin.

Bradbury answered the phone, and it was immediately obvious he was excited. Allen had caught him just before the lab was evacuated — because of the train derailment miles away. Bradbury said they were already supposed to be out of the building, but the EPA chemists were trying to figure out what might be in that cloud coming towards them across Lake Superior. They had heard benzene, but they could smell something more like perfume, so they were thinking it might be dicyclopentadiene. Bradbury said, "I gotta go, but you better get up here. It looks like a big deal. They're evacuating a bunch of Superior and Duluth."

Allen realized that his peaceful morning was over. He went into Stromborg's office with a plan that might make the disruption more enjoyable. "Ken, it sounds like I should head up there, but it looks like the derailment in in the middle of nowhere in the woods. You better let me take the new truck." Allen knew that Stromborg had already claimed the office's new Chevy K2500 pickup, and he didn't want anyone else using it until the motor was properly broken in. But Allen didn't want to make the 5-hour drive in the old Suburban, and he wanted 4-wheel drive once he got there. Stromborg looked troubled but quickly acceded to Allen's request. "Just make sure you don't drive at a constant speed."

Allen grabbed his Wisconsin Atlas and charted a back road route. That would make the drive fun and guarantee plenty of variation in engine RPMs. Hours later, he aimed at the Nemadji River where the map showed railroad crossings. He figured he was getting close because the woods starting to smell a bit like perfume. He realized he was too close when he happened upon an emergency response truck with several people in full HAZMAT gear – including respirators that looked like gas masks. They gave Allen a look as he drove by, but they didn't stop him. The U.S. Fish and Wildlife Service decals and government plates probably gave him a pass, but he headed for larger roads to find somebody in charge.

That lead him to the local command station on Route 35, but they seemed exasperated to have to talk to him. They explained that he was on the wrong side of the road blocks – Allen had accidentally bypassed them by taking back roads. Plus, Allen would later learn that there were already disputes erupting between federal and state agencies. Nobody seemed very happy about seeing another federal agency arrive without warning.

For the next 3 days, Allen tried to convince local Wisconsin DNR staff to help him sample water, fish, and critters. Luckily, the U.S. Coast Guard Atlantic Strike Team and the EPA On-Scene Coordinator were much happier to see him. They arranged access and boats. Soon, the FWS Regional Office sent reinforcements and arranged for some help from local professors.

The EPA lab provided clean glassware, coolers, and dry ice. The data would eventually lead to one of the first damage assessment settlements in Wisconsin.