

## Connecting the Dots

July 2012 Interview with Seth Mott  
By Karene Motivans

**Motivans: Hi. You're listening to the Connecting the Dots Podcast. I'm Karene Motivans from the National Conservation Training Center and I'm here in the studio today with Deputy Science Advisor Seth Mott. Hey Seth, I've always been struck by the clear way you explain the Fish and Wildlife Service's Strategic Habitat Conservation Approach and all the associated concepts. I'd like to thank you for joining us here today to connect the dots so we can understand how the pieces fit together. Can you tell us what you've been working on this past year?**

Mott: Thanks Karene. Well, we'll try and connect some dots. We'll see how that goes. Again, I'm Seth Mott. I'm the Deputy Science Advisor in the Washington Office Fish and Wildlife Service. And to help connect the dots I want to talk a little bit about something I've been working on for the Fish and Wildlife Service for about a year now. Everyone in the Fish and Wildlife Service, not just me, not just you, but all of us are busy every day. We have to make decisions about what we're going to work on. So I want to talk about something I've been working on for the last year. It's not part of my regular duties but it's something I feel that's pretty important which is why I spend time on it. So when you hear about it from supervisors or your colleagues or the Directors address I want to help you understand why I think it's important and maybe you will too.

You've probably heard recent talk about this surrogate species concept and what does that mean? Well, that's what I've been working on with a small group of other folks in the Fish and Wildlife Service. This began about a year ago when Director Dan Ashe asked a few of us if we could undertake one of his priorities which was how to advance the application of strategic habitat conservation across the Fish and Wildlife Service. We've heard for a number of years of various attempts and projects that people in the Fish and Wildlife Service have done under the approach of strategic habitat conservation, but the Director wanted to make it a more integral part of what the Fish and Wildlife Service does every day and in every part of the Fish and Wildlife Service and so really his charge to us was to help him help the rest of the Fish and Wildlife Service chart a path forward on that.

I know when we talk about surrogate species or LCCs or strategic habitat conservation there's always a reaction of well, what's new this time and how does that change what we've been trying to do all along and what's wrong with what we've been doing all along anyway? Well, nothing's wrong with what we've been doing all along and in fact the reason I think this is important is because I really believe in the mission of the Fish and Wildlife Service and I think that this work we're trying to do that involves surrogate species and strategic habitat conservation in a landscape approach -- I think that's what we really need to do better in the Fish and Wildlife Service if we're going to be able to successfully fulfill our mission in the future. Of course our mission is all about conserving and protecting fish, wildlife, plants and their habitat

for the continuing benefit of the American people and that's why we're trying to do this and hopefully I can connect some dots on why I think it's important.

**Motivans: What are biological outcomes and why focus on them?**

Mott: Really we're talking about biological outcomes and that's what the Director talks about. He wants us to be able to define and describe biological outcomes in terms of the fish, wildlife and plants that make up our mission and so really what we're trying to do is just be more consistent and more explicit about describing those biological outcomes in a way that we can then pursue and be able to show both ourselves and the American public that we're making real progress.

To try and connect the dots to our past a bit -- I mean since there was a Fish and Wildlife Service of protecting wetlands and migratory birds has been a big part of our mission and so we've had a number of programs through the years starting with the Duck Stamp and the National Wildlife Refuge System, system of flyways, working with our states and other countries that host our migratory birds, a North American Waterfowl Management Plan and so as an example we have in the North American Waterfowl Management Plan prescribed objectives for waterfowl; in some cases as specifically as species. How many breeding mallards do we expect to see in the Prairie Potholes in the Spring to meet the needs of the American public? And those targets were set, of course, to support the sport hunting interest.

So that's a biological outcome described specifically in a population abundance objective and because we have a specific objective tied to that biological outcome of having sustainable healthy populations of waterfowl and specifically mallards, we're able to then identify and describe the work that we need to do to maintain that objective or to achieve that objective if it's not where we think it should be in the future. Of course, knowing what we know about prairie breeding waterfowl we know that protecting and restoring wetlands in the breeding area and in the migration wintering areas are places we need to focus our work. And so while we have discreet biological outcomes identified for a number of the things we do whether it's for waterfowl or for threatened and endangered species and recovery plans and some of the work that's done in fisheries in terms of restoring anadromous populations of salmon or other species, the specific watershed or maybe they've been extirpated in the past. We have those kind of biological objectives and outcomes, but as an agency we work towards those things either programmatically or by field station or by individual refuge, and we know that to be successful we need to have success all across the ranges of those species.

**Motivans: How do biological outcomes relate to landscape level conservation and partnerships?**

Mott: But we know to have long term success around these biological outcomes we need to pursue them and protect them and conserve them in the context of the ecosystems that they exist in. When we talk about ecosystems sometimes we talk about landscapes and sometimes we're kind of squishy about what those things are but I think we all recognize as fish and wildlife biologist that of course the watersheds, the land, the land cover, the species, the climate and of

course the people that live in those areas all have an effect on these biological outcomes and so we need to consider all those things as we plot our conservation actions and strategies.

Okay, so what's this got to do with surrogate species? Well, because we work in partnership with state fish and wildlife agencies and landowners, with agriculture, with all of those entities across the landscape as well as working with each other, we know that working in partnership it gets us to achieving outcomes more effectively than we probably could working alone and so what the Director would like to do is enable the Service to be able to define a discreet set of biological outcomes that we can share across programs and share with our partners so that we all have a clear understanding of biological outcomes and the results that we hope to get and, if we can, demonstrate that.

**Motivans: How do surrogate species relate to biological outcomes and why use them, Seth?**

Mott: Now, of course, we have thousands of species of various fish, wildlife, and plants that are federal trust responsibilities. That's our primary responsibility and we have as I mentioned objectives for many of those, but pursuing all of those things one by one is confusing and perhaps often inefficient so that's where this idea of surrogate species came about. That if we could identify just a few species that would allow us to describe the landscape conditions, the habitat needs and other management needs, specifically to achieve those biological outcomes we would also be getting benefits to a number of other species as well. But then of course the challenge is which one's do you pick and how well do the ones that you pick -- how well do they really reflect the needs of the other species that perhaps you're not concentrating on.

Well, in conservation planning there are a number of approaches to using individual species as targets for conservation planning and many of us have had experience with those. We've heard about umbrella species or indicator species. In strategic habitat conservation we talk about focal species. In fact, there's a good bit of scientific literature that talks about these different approaches on how you go about selecting an indicator species or what's the ecological principles behind the concept of an umbrella species. We toss those around a good bit and we kind of understand what we think we mean but we're not very precise and you know is an umbrella species the same as an indicator species or a focal species? Well, if you're not precise about how you define them, they may or may not be and since we're talking about using a few species to represent the needs of a number we need to be specific exactly about what we mean by the species and how well we think they represent others. And in the scientific literature surrogate species is a general term for all those other approaches.

**Karene: Can you tell us more about the draft guidance for selecting surrogate species?**

Seth: So where we are right now is we have a document we've put together it's called Draft Technical Guidance for Selecting Species for Functional Landscapes that's about how to select surrogate species, proposes an approach, and the steps that someone would take when considering the different kinds of surrogate species and what the biological outcomes we're trying to achieve with them would be and put it in to kind of a step-by-step approach to do it and we're doing this so that we can do that consistently, you know, across the Fish and Wildlife

Service. So we have these biological outcomes and surrogate species that all our programs and hopefully our partners can recognize and then look for ways to contribute to those desired outcomes.

Now the draft Technical Guidance, at this point in time, is still a draft because we think this could be a pretty important piece of work for the Fish and Wildlife Service and our partners so we want to make sure we get it right. So that's why we're arranging for a number of workshops to engage the Fish and Wildlife Service workforce, include some of our partners in those to kind of look at this draft approach and see how well it will fit and potentially improve on the work that we all do, but one of the things that I think is important to recognize about this technical guidance is it is about selecting species. What things should you consider when selecting species? Well, first you have to consider what are the outcomes that we're trying to achieve.

Well, again for the Fish and Wildlife Service it's in our mission: fish, wildlife and plants and their habitats. For some of our other partners it might be something different. Certainly the state fish and wildlife agencies that have responsibility for resident species might have a slightly different set of biological outcomes that they want to plan for, work for, and measure their progress against, but we know that the work done for those kinds of outcomes in many ways complements and supports the outcomes we want to achieve and, of course, that's true for a number of other conservation partners as well.

So really this guidance is about all the things you need to consider as you select species, our priorities, other priorities, landscape conditions, climate change, fire, drought, and that's what the technical guidance tries to do is talk about the things that should be considered to both select species, select approaches to selecting species. Are there good umbrella species that would cover the biological outcomes we're interested in? Should we select an indicator species that we can monitor over time to see if the effects of climate change are having a large impact on what's happening with that species and can maybe inform us about how it's impacting other species as well.

But in the end all we've done is select some species and some conservation targets representing our biological outcomes and that's really just the first step because then the real work begins. Because once you've identified these conservation targets then, of course, you have to go through the whole SHC approach of looking at what are the limiting factors for those species. How do we devise conservation strategies then to address those limiting factors and really that's where the meat and potatoes of the Fish and Wildlife Service is because all those folks across the country on the refuges and partners for fish and wildlife, in the fish tech centers, coastal program, doing the work of then implementing those conservation strategies. That's been the hallmark of the Fish and Wildlife Service for decades, but, of course, that's not enough.

Then we need to be able to monitor for those outcomes that we've identified as desirable. Are we having an effect in conserving or increasing those species? Are the results for our surrogate species -- are they also reflected in some of these other species? In other words, we have to test our assumptions that the surrogates we select are representative of what's going on

with all those other populations of fish and wildlife and so really the surrogate species and the technical guidance is just setting that first step that then we can then define the work that we need to be doing which then allows us to define the resources we need to do that work and that's where the results of this really gets us to where I think the Director wants us to go and so that when the Directorate or any one of us needs to make a decision about what work we need to do, how much work we need to do, where do we need to do it, who do we need to get help do that work, now we can explicitly say these are the things we think we need to achieve this biological outcome whether it's for a surrogate species, one of our individual listed species, migratory bird, populations of fish we're trying to restore to our rivers and streams, whatever it might be.

**Motivans: Seth, why do we need new priority species? I know we've got lists out there. Why select surrogate species now?**

Mott: You know, lots of people have said to me when they hear the word surrogate species, we already have lists of species. Why do we need to pick new ones? Well, I don't think we need to pick new lists of species because we do -- we have lists of threatened endangered species and priority species for fish and for migratory birds, for manatees, and Pacific walrus and we know what our responsibilities and our priorities are. We're not talking about changing those lists or in some cases the outcomes we've already identified for those.

What we're looking for with the surrogate species and the set of biological outcomes that they represent is a way that the work of everyone in the Fish and Wildlife Service can be clearly linked to some commonly identified outcomes and really I think it helps connect the dots for us individually because none of us do the work of strategic habitat conservation in totality. You know everyone has responsibilities and it doesn't cover the full range of activities.

We have people that conserve habitat. We have people that do monitoring, people that work with private landowners or other agencies and so no one does SHC in a full cycle, but how do you know if the work you do does connect to these larger outcomes.

Well, I think having the surrogate species and a set of common biological outcomes and link the work that needs to be done to achieve those will help everyone in the Fish and Wildlife Service see where their contribution is adding up with those of everyone else in the Fish and Wildlife Service, our partners towards the success in our mission and we can demonstrate that success to the American public.

**Motivans: What is another dot that we need to connect here?**

Mott: Another question that comes up almost every time is well how does landscape conservation cooperatives fit into this and when they begin to investigate the technical guidance and surrogate species and biological outcomes at landscape scales they say isn't that why we have LCCs and I'd say that's one reason we have LCCs.

We created landscape conservation cooperatives to fill a capacity to do the kind of biological planning that allows us to understand the work we need to do with our partners to

achieve these outcomes and so I think the LCCs should be – could be a big part in implementing a surrogate species approach, but they can't do it by themselves and frankly I don't think we would want them to because in the end the work of the Fish and Wildlife Service remains the work of the Fish and Wildlife Service and if LCCs can be a component of that that has a defined responsibility for conservation planning, building the decision support tools and helping to find the strategies that will make us successful, well that's another tool in our tool box just like refuges or partners for fish and wildlife biologist.

Because the LCCs were organized as partnerships of conservation interest with us I think that's an opportunity already in place where we can go and talk about our biological outcomes, our needs, our capacities we can bring to the table and provide a table where we can sit around with our partners and see how our resources, our priorities and our goals fit with those of those other agencies and that way we can best identify how we can work not on the same thing all the time, but we can work on things together that contribute to our collective priorities and missions.

**Motivans: Seth, how are you getting input from the field, from the regions, on this brand new selection process for surrogate species?**

Mott: So I mentioned we have this draft technical guidance around selecting surrogate species and this draft has been out for review in the Fish and Wildlife Service at the program and regional level and we've gotten a lot of comments back, suggestions, questions, hundreds of pages in fact.

We go through those and we're trying to make improvements and answer some questions. They certainly help us identify probably some gaps that are in the guidance. They certainly identify some opportunities to be more descriptive in what we're trying to convey and we'll address those. So in reviewing these comments, you know, we find some things that will be fairly easy to fix especially now that people have pointed them out to us. In some cases they've actually suggested how to fix them and that's great and we'll do so, but there are other questions and comments that really we can't answer because we don't know those answers yet and that's why we're going to leave this technical guidance as a draft for a number of more months to allow more people to review it and help us decide what the best answers are to some of these questions that are still out there.

One of the themes that seems to run across a lot of the comments that we've gotten back is well conceptually this sounds like a good idea, but we're not sure it will really work. And in fact, if you look in the science literature about surrogate species what you'll find is that a lot of what's been published is conceptual and hasn't been applied at large scales in practical ways and so what the Fish and Wildlife Service is proposing to do as an agency for the entire country is an unprecedented application of this kind of approach to conservation.

We don't know exactly how it's going to turn out and we probably will have to make or will want to make adjustments to the approach as we apply it and we learn what maybe some of the mistakes are, some of the omissions, some of the gaps that we didn't foresee either in the current draft or in subsequent drafts. That's why we really want to have as many people in the

Fish and Wildlife Service and ultimately our partners as well, help us with the draft guidance to look for those things, to identify those questions both that we can answer now and identify the questions that perhaps we can't answer now but we should pay particular attention to as we move forward with implementation to see how in the future we can better address those things.

**Motivans: Can you share one of the benefits of this new way of working that you've been thinking about?**

Mott: Another thing that excites me about this effort is the potential to bring together the work that we do in our different programs and with our partners because we're all out there making a difference every day, but I know that we can make a bigger difference if we're working together. It's exciting to me to pursue this because I've seen the work that can result when the work that's being done on our national wildlife refuges is aligned towards certain outcomes for species on a refuge and at the same time we have folks in partners for fish and wildlife working with private landowners towards those same goals and objectives for specific species in certain areas and if we can bring in the work that we need to do in our lakes and streams for our important aquatic resources and how the needs that they have in the waters is reflective of the health of the land that surrounds them. We can bring together those components and really take that holistic approach.

One of the things that also excites me about this is I see a real potential to build this approach all across our agency so that it really encourages and supports the ability of all of our staff to work together. I've seen it in the field where folks on refuges and partners for fish and wildlife and some fisheries biologists, they're always looking for ways to work together and achieve commonly held outcomes. We just haven't been explicit about defining those in a way that made it clear what their expected roles were of the different programs and resources and I think this approach will help do that and support folks doing the work that really makes a difference.