

Reviewer #	Approximate Page Number (Master, 05082015 Version)	Approximate Start Line of Comment in Protocol (Master, 05082015 Version)	Protocol Section	Comment	Theme (from list)	Author Response	Revision
INT - 4	5	165	Acknowledgments	No periods used below (i.e., U.S.G.S. vs USGS), check for consistency throughout document.			
EXT - 2	5	172	Acknowledgments	This reference is missing from the References Section (Element 8) that applies to this portion of the document.			
EXT - 2	5	177	Acknowledgments	This acronym should be defined.			
EXT - 2	5	180	Acknowledgments	The acronym “R” should be defined. The USFWS Region “x” should also be defined for this individual			
EXT - 2	5	186	Acknowledgments	This acronym should be defined			
EXT - 2	9	305	Element 1 - Background	The Clapper Rail taxonomy was modified by the AOU during 2014 and the new taxonomy should be reflected here. There is a new species name, with crepitans replacing longirostris for clapper rail. Ridgway’s rail (R. obsoletus) has been split from clapper rail and should be added to this list.			
EXT - 2	9	309	Element 1 - Background	The correct species name for the common gallinule is galeata, now that the new world form is considered a separate species from the old world form. This document should follow the latest taxonomy and nomenclature used by the AOU.			
EXT - 2	10	336	Element 1 - Background	Gallinules and coots are also hunted and should be mentioned here			
EXT - 2	10	343	Element 1 - Background	Revise—this phrase does not make sense as currently written.			
INT - 4	10	345	Element 1 - Background	Abbreviations were used above, check document for consistency.			
EXT - 2	10	351	Element 1 - Background	This citation is missing from the References section.			
EXT - 2	10	359	Element 1 - Background	The USFWS “vested” interest in marsh birds is actually described in the second sentence of this paragraph. Perhaps the first sentence should be rewritten to indicate the USFWS has the legal responsibility under the MBTA to manage and protect all migratory birds. The second sentence would then describe its vested interest in managing marsh birds.			
EXT - 2	11	379	Element 1 - Objectives	Is density the correct term here? Or, are you really referring to relative abundance of marsh birds? Densities involve estimates of numbers of individuals per unit of area, which may be difficult to determine from surveys involving play-back where individual birds may be moving in response to the recordings.			
EXT - 2	11	386	Element 1 - Detection Probability	Well defined			

INT - 3	11	Element 1 - Detection 389 Probability	This discussion appears out of context in a paragraph on detection probabilities. I suggest removing these sentences
EXT - 2	11	Element 1 - Detection 407 Probability	This citation is missing from the References section for this portion of the report.
INT - 3	11	Element 1 - Detection 407 Probability	Missing from References
EXT - 2	11	411 Element 2	Where is Element 1? Or, should sampling design become Element 1?
INT - 2	11	411 Element 2	Should there be a statement somewhere in here that the general method is a point count (versus transect, area search:?)
INT - 3	11	Element 2 - Sample 418 design	This is first time used – define SOP
INT - 4	12	Element 2 - Sample 430 selection and size	This paragraph addresses sample size but not sample selection.
EXT - 2	12	Element 2 - Sample 431 selection and size	And the extent and accessibility of wetland habitats within the study site.
EXT - 2	12	445 Element 3	Element 2?
EXT - 2	12	Element 3 - Pre- survey logistics and 450 preparation	Is this document prepared only for the USFWS Refuge system or will it have a broader audience? If only for USFWS, then be clear that you are referring to the USFWS Regional Biologist here. If for a broader audience, then consulting the USFWS Regional Biologist may not be appropriate and a reference to “other biologists” may be more appropriate.
INT - 3	12	Element 3 - Pre- survey logistics and 451 preparation	Some regions don’t have “regional biologists” – in some areas this was replaced with I&M.
EXT - 1	12	Element 3 - Pre- survey logistics and 461 preparation	On page 3, units are defined as survey points, but here and later both units and points are used. Please be consistent one way or the other. Survey points make more intuitive sense in field protocol
EXT - 1	12	Element 3 - Pre- survey logistics and 461 preparation	Other types of marking survey points may be more appropriate than just flagging tape, which would have to be replaced annually. Consider broadening marking types here, and note the value of marking each unit/point with a more permanent marker for long-term monitoring efforts
EXT - 2	13	Element 3 - Pre- survey logistics and 473 preparation	This term is not clear to me. Does this mean +2.5 dB or ~ +5 dB precision?
INT - 4	13	Element 3 - Pre- survey logistics and 474 preparation	Should this be optional? Not all surveyors will necessarily want to account for ambient noise.

EXT - 2	13	478 Element 3 - Pre-survey logistics and preparation	Is this equipment necessary for surveys of fresh water marshes? If not, then indicate when it is needed.
INT - 4	13	480 Element 3 - Pre-survey logistics and preparation	Should these be optional? The salinity meter is crossing over into habitat measurements; isn't there a separate protocol for wetland habitat monitoring?
INT - 4	13	490 Element 3 - Pre-survey logistics and preparation	What about surveys focusing on the wintering period?
EXT - 1	14	494 Element 3 - Establishment of sampling units	Points?
EXT - 2	13	501 Element 3 - Establishment of sampling units	Not sure what you are referring to by the word "this". Please define
INT - 2	13	509 Element 3 - Establishment of sampling units	Not sure why so much detail here versus in the SOP#1 as above.
INT - 4	14	522 Element 3 - Data collection procedures	This has been repeated several times above, probably not needed here again.
INT - 4	14	546 Element 3 - End-of-season procedures	Strange to start a section on "end-of-season" procedures with something that is done at the start of the field season.
INT - 4	14	550 Element 3 - End-of-season procedures	This belongs in the Reporting section.
EXT - 2	15	560 Element 4	Element 3?
INT - 4	15	563 Element 4 - Data entry, verification, and editing	This new protocol framework also will allow data sharing, correct? Why is the old protocol referenced here?
INT - 2	15	576 Element 4 - Data security and archiving	Is this needed if electronic copies. I thought one of the points was to reduce the paper part.
EXT - 2	15	579 Element 4 - Data security and archiving	Element 2?
EXT - 2	15	602 Element 5	Element 4?
INT - 2	16	613 Element 5 - Annual Reports	Why the font change?
EXT - 2	16	623 Element 5 - Analysis and Synthesis Reports, Trends and Habitat Relationships	This time frame should be consistent with the time frame used in the next paragraph.

INT - 4	16	624 Relationships	Element 5 - Analysis and Synthesis Reports, Trends and Habitat It seems somewhat arbitrary to put a time frame on these reports because the objectives and information needs associated with a given survey will vary. Alternative: "...should be prepared on a time interval that is scaled to the management objectives or information needs of the specific survey. For example,..."
EXT - 2	17	658 to include	Element 5 - Sections Another undefined antecedent. Please define.
EXT - 2	17	677 Element 6	Element 5?
EXT - 2	17	681 and responsibilities	Element 6 - Roles Also establishes the survey locations
EXT - 2	17	689 and responsibilities	Element 6 - Roles Not a complete sentence. I presume that observers should be knowledgeable in these areas before starting the surveys
EXT - 1	17	695 Qualifications	Element 6 - Replace all observers with surveyors to be consistent
INT - 4	18	707 Element 6 - Training	May want to add a section on how to minimize disturbance to marsh vegetation/birds when travel through marsh vegetation is unavoidable. Observers should stick to established trails or paths when possible and avoid stepping on clumps of live or dead vegetation, especially during the breeding season, to prevent trampling of nests, nestlings, and/or adult birds.
EXT - 1	18	723 Element 6 - Training	What about training if canoes or kayaks are used?
EXT - 1	18	727 Estimation	Element 6 - Distance I remain highly skeptical of accuracy in distance estimation when you cannot see the calling bird, given the many environmental variables involved (never mind observer skills and bird behaviors)
EXT - 2	18	728 Estimation	Element 6 - Distance This section should also address the fact that birds vocalizing when facing away from an observer sound much more distant than the same bird vocalizing while facing the observer from the same location. Example 1 in this paragraph should be repeated with the speakers facing away from the observers so they can appreciate this difference.
INT - 4	18	728 Estimation	Element 6 - Distance This depends on the habitat variables that are of interest—seems out of place in a paragraph about distance estimation
EXT - 1	18	730 Estimation	Element 6 - Distance And facing in different directions and in different types of vegetation (e.g., cattail vs. sedge/grasses) or vegetation densities – to get the full range of likely conditions encountered... and different calling volumes.

			? Are all surveys in these protocol assumed to be unconstrained by distance -- ie record all birds, regardless of how distant it may be, or is there an option to constrain to a set distance (e.g., recording only those detected within 100 m of the survey point, which may help to minimize detection errors)? It may be useful to stress practices of distance estimation for simulated calls or natural features (that would usually be encountered, not flagpoles!) within 100 m, to best enhance estimate accuracy.
EXT - 1	18	Element 6 - Distance 737 Estimation	
EXT - 2	19	Element 6 - Hearing 751 Tests	Shouldn't the hearing tests be conducted before the survey season to determine if there is hearing loss that could significantly affect the survey results? I would think that the program would not want the surveys conducted and then discover that surveyors had significant hearing issues.
EXT - 2	19	759 Element 7	Element 6?
EXT - 2	19	762 Element 7 - Budget	2?
INT - 2	19	Element 7 - Table 768 7.1	Consistent font.
EXT - 1	19	Element 7 - 775 Schedule and staff time	? how would this affect staff time and effort, once number of sample units are determined?
EXT - 2	20	Element 7 - 785 Coordination	Define the acronym.
EXT - 2	20	789 Element 8	Element 7?
INT - 3	20	Element 8 - 794 References	This reference is not in this chapter
EXT - 1	20	Element 8 - 794 Referencees	Not cited in this section
INT - 3	20	Element 8 - 810 References	This reference is not in this chapter.
EXT - 1	20	Element 8 - 810 Referencees	Not cited in this section
EXT - 1	20	Element 8 - 819 Referencees	Not cited in this section
INT - 3	21	Element 8 - 852 References	This reference is not in this chapter
INT - 3	24	Element 8 - 964 References	This reference is not in this chapter
EXT - 1	24	Element 8 - 964 Referencees	Not cited in this section

INT - 4	24	SOP 1 - Target population and 995 sampling frame	I'm wondering if there is some confusion here between a statistical population and a biological population. The birds are the biological population that we are interested in. But we can't sample the birds like drawing marbles from a bag—the birds are not our sampling units. The sampling units are the units of habitat that we are visiting. Therefore, the target population, in the statistical sense, should be all of the habitat units in our area of interest. The sampling frame is the complete list of all habitat units that we can access.
EXT - 1	24	SOP 1 - Target Population and 1000 sampling frame	Think italicizing these key components may be helpful to readers
INT - 3	25	SOP 1 - Target population and 1019 sampling frame	Listed as 2008 in Refs
EXT - 2	25	1025 SOP 1 - Objectives	Another undefined antecedent. Are you referring to all of the management objectives, or all of the sampling designs?
EXT - 1	25	1025 SOP 1 - Objectives	Objectives don't estimate but rather require estimates to address an information need or management goal
EXT - 2	25	1049 SOP 1 - Objectives	...abundance or occupancy that you wish to be detected and...
INT - 3	26	SOP 1 - Survey 1066 timing and schedule	Not listed in References
INT - 4	26	SOP 1 - Survey 1069 timing and schedule	Unclear what you mean here—do you mean 2 visits per year?
EXT - 2	26	SOP 1 - Survey 1088 timing and schedule	.. will occur during migratory periods for many marsh birds.

			Time of Day—Vocalization probability of marsh birds is typically highest in the 2 hours surrounding sunrise and the 2 hours surrounding sunset. Survey scan be conducted during either the morning or evening as long as each route is surveyed consistently during the same period every year (once a route is design ed an evening route, it will always be an evening route). Morning surveys begin 30 minutes before sunrise and should be completed prior to the time when marsh birds cease calling which varies depending on a number of factors including temperature and time of year. In general, these surveys should be completed 2 hours after sunrise in southern latitudes and 3 hours after sunrise in northern latitudes. Evening surveys should begin 2 hours before sunset and must be completed by 30 minutes after sunset, when it is becoming too dark to see the datasheets. The half hour after sunset is often when detection probability of marsh birds is highest. Determine the optimal daily survey windows for your region and use these windows consistently between years. Including morning and evening surveys into a standardized monitoring protocol provides added flexibility and more potential survey hours for field personnel.
EXT - 2	26	1095 SOP 1 Time of Day	
EXT - 1	26	1095 SOP 1 - Time of Day	These protocol are appropriate for most of the species of interest here but definitely not for yellow rails, which are best surveyed between ~11pm and 3-4 am. Some note of this should be included here so that those refuges that have a specific interest in yellow rails can adjust their survey times appropriately. See Martin et al. 2014 (Waterbirds 37:68-78) and Sidie-Slettedahl et al. 2014 (Wildlife Soc. Bull). I think a separate paragraph for yellow rails is warranted, since this is a species of focal concern.
INT - 4	27	1100 SOP 1 - Time of Day	? Unclear why this is a hard and fast rule—am vs. pm survey timing can be incorporated into models as detection covariates.
INT - 4	27	1100 SOP 1 - Time of Day	Survey timing may vary depending on the focal species of interest—in SF Bay, Point Blue has found that RIRA detection is maximized using a survey window that extends from 1 hr before sunrise to 1 hr after, and, similarly from 1 hr before sunset to 1 hr after.
EXT - 1	27	1103 SOP 1 - Time of Day	Explain how temperatue can affect ceasation of calling so surveyors can appropriately adjust
EXT - 1	27	1106 SOP 1 - Time of Day	But see Harms and Dinsmore 2014 – their paper, and those they cite, clearly indicate variability by season and species. This statement seems too broad.
INT - 4	27	1110 SOP 1 - Time of Day	Wind may be a factor for evening surveys in many locations

EXT - 2	27	SOP 1 - Surveys in 1120 Tidal Marshes	This species is now known as Ridgway's Rail.
INT - 4	27	SOP 1 - Surveys in 1120 Tidal Marshes	The high tide surveys at Don Edwards SF Bay NWR are winter visual airboat surveys. All breeding season playback surveys on the refuge are conducted when sloughs are less than bank full.
EXT - 2	27	SOP 1 - Surveys in 1122 Tidal Marshes	Ridgway's rail if using current taxonomy.
EXT - 2	27	SOP 1 - Surveys in 1128 Tidal Marshes	If surveying at mid-tides, does it matter if the tide is rising or falling? Should this aspect of tide be consistent between surveys?
INT - 4	27	SOP 1 - Surveys in 1135 Tidal Marshes	This is how breeding season playback surveys are timed in SF Bay in relation to tides.
INT - 4	27	SOP 1 - Surveys in 1136 Tidal Marshes	May be difficult to estimate closest high tide for muted tidal marshes (common in SF Bay).
EXT - 2	28	SOP 1 - Sample size 1150 for temporal trend	I am not sure what is meant by the term "minimum" trend. With regards to trend estimates, the desired precision and accuracy of these estimates drives the sample size requirements.
EXT - 1	28	SOP 1 - Sample size 1155 for temporal trend	How short? Eg less than 5 yrs? 10 yrs? 20 yrs?
EXT - 2	28	SOP 1 - Sample size 1156 for temporal trend	Define "short time frames"—is this 5 years?, 10 years? 20 years?
EXT - 2	28	SOP 1 - Sample size 1161 for temporal trend	Provide reference(s) to support this statement. This statement is contradicted later in the paragraph where the species characteristics that influence detection probability are indicated as an important factor influencing the required sampling effort.
INT - 4	28	SOP 1 - Sample size 1163 for temporal trend	This is the first mention of survey routes. How do survey routes relate to survey points in the sampling design?
INT - 4	28	SOP 1 - Sample size 1180 for temporal trend	Can survey points be considered independent if they are on the same route? Is the route really the sampling unit?
EXT - 1	28	SOP 1 - Sample 1190 designs	Are these symbols or > that are underlined? Former would probably be more appropriate for final copy
INT - 4	29	SOP 1 - Sample 1196 Design #1	Sample size will depend on the sampling objectives, so why provide a hard number here?
EXT - 2	29	SOP 1 - Sample 1197 Design #1	How was a sample size of 50 cells developed? I thought that sample sizes were to be developed based on the specific needs of each study. That fact should be reflected in this paragraph. In this paragraph, it would be better to indicate what proportion of replacement grid cells should be selected based on the desired sample size. Is the 40% used in this example representative for all studies?
EXT - 1	29	SOP 1 - Sample 1212 designs	Access routes often may not be linear

INT - 4	29	SOP 1 - Sample 1214 Design #2	This is a very useful design because realistically most marshes are sampled from accessible roads, levees, etc.
INT - 4	29	SOP 1 - Sample 1218 Design #2	Again why specify a sample size if it will depend on the sampling objective?
INT - 4	29	SOP 1 - Sample 1218 Design #2	See comment above.
EXT - 2	29	SOP 1 - Sample 1220 Design #2	Instead of using arbitrary numbers, for stratified designs, the emphasis should be on consulting with a statistician to develop the allocation of survey points among Class 1 and Class 2 sites. Logistics and available resources may be the most important factors limiting the number of Class 2 sites that can be surveyed, and these constraints must be factored into decisions regarding the allocation of survey points.
EXT - 2	29	SOP 1 - Sample 1233 Design #3	See comments above regarding using arbitrary sample sizes in these paragraphs.
INT - 4	29	SOP 1 - Sample 1234 Design #3	See comment above.
EXT - 1	30	SOP 1 - Table SOP- 1278 1.1	Word usage – sampling sites vs units vs points
INT - 4	33	1378 SOP 2	This has been repeated several times, needed?
EXT - 1	33	1378 SOP 2	Is this repeated information necessary?
EXT - 2	33	SOP 2 - Broadcast equipment and 1396 placement	For these surveys, should the playback recordings always be obtained from the survey program coordinator? If so, then replace the word “should” with “must”. Perhaps it would be good to clearly state in the paragraph that the surveyors should not make up their own recordings to use in these surveys.
INT - 4	33	SOP 2 - Broadcast equipment and 1396 placement	Folks in SF Bay want to use locally recorded vocalizations, how much standardization of the calls used is needed?
INT - 4	33	SOP 2 - Broadcast equipment and 1398 placement	Probably best to put the contact info here, don’t want folks to have to keep flipping to Appendices for important info.
INT - 4	34	SOP 2 - Broadcast equipment and 1412 placement	By upright do you mean pointing the speaker up?
INT - 4	34	SOP 2 - Broadcast equipment and 1417 placement	Yes
INT - 4	34	SOP 2 - Broadcast equipment and 1419 placement	Or towards the majority of the marsh habitat in the surrounding area.
EXT - 2	34	SOP 2 - Species to include in the 1439 broadcast sequence	Include Ridgway’s Rail in this list.

INT - 4	34	SOP 2 - Species to include in the 1440 broadcast sequence	Aren't American bitterns not very responsive to playback? Do we really care about coots that much? (just kidding, kind of). How about listing some criteria for how a surveyor should decide what species to include rather than have a fixed list? e.g., responsiveness of a species to playback, conservation priority level in that state/region, etc.
EXT - 2	35	SOP 2 - Species to include in the 1457 broadcast sequence	This section should also discuss how habitat preferences should be considered in the species selection process. Some marsh bird species have very specific habitat requirements. If those habitats are not present, then those species may be excluded from the play-list even though the surveys are being conducted within that species breeding range.
EXT - 2	35	SOP 2 - Species to include in the 1460 broadcast sequence	The chronological order of broadcasted calls should start with the least intrusive species in the following sequence: first, and follow this chronological order: black rail, least bittern, yellow rail, sora, Virginia rail, king rail, clapper rail/Ridgway's Rail, American bittern, common gallinule, purple gallinule, American coot, pied-billed grebe, limpkin. This order of species on the broadcast sequence was based on recommendations by Ribic et al. (1999). The vocalizations/calls included in the call-broadcast sequence include the primary advertising call(s) of each species. (e.g., 'whinny' for sora, 'grunt' for Virginia rail, 'clatter' for clapper rail, 'click-click-click-click-click' for yellow rail, 'coo-coo-coo' for least bittern, 'pump-er-lunk' for American bittern, etc.). Other calls associated with reproduction are also included for many of the species. Including every all the common vocalization/calls associated with reproduction for of each species on the broadcast sequence is thought to increase detection probability during different times of the breeding season and can help observers learn the less common calls of each target species. A list of common calls for each target species is found in attached (Appendix D).
EXT - 2	35	SOP 2 - Estimating distance to each 1481 focal bird	Population size? Number of breeding pairs? The number of species (as is currently written) is not related to the density estimates.

EXT - 2	35	1483	SOP 2 - Estimating distance to each focal bird	of each bird when the bird is first detected because since birds may approach the call broadcast during the survey (Legare et al. 1999; Erwin et al. 2002), which violates an important assumption of distance sampling. More research is needed to address the magnitude of this potential problem for each focal species, but analysts will likely only use distance estimates only from birds detected during the initial passive period. of the survey (those detected prior to the call broadcast). Estimating density from a subset of birds detected during the 5-min passive period would not introduce bias as long as the other assumptions of distance sampling are met (Buckland et al. 2001). The distance at which most individuals are detected varies among the focal species (Conway and Nadeau 2006). Like all measurements, estimating distance to individual birds during surveys includes measurement error. However, training surveyors to estimate to distance to calling marsh birds can decrease bias. Obtaining accurate distance estimates requires training surveyors in order to decrease potential bias (Nadeau and Conway 2012). Surveyors are encouraged to use a range finder to help them determine the distance to specific landmarks surrounding each survey point, which will help estimate the distance to calling marsh birds. Other methods for improving distance one's ability to estimate distance include: 1) tying surveyors flagging at regular intervals away from each survey point in each cardinal direction, or 2) carrying aerial photos of the marsh with 50m-, 100m-, and
EXT - 2	35	1497	SOP 2 - Estimating distance to each focal bird	Birds may also move a significant distance towards the speakers before their initial vocalization, which would also be an important violation of this assumption. Given these problems, why even bother to estimate distances once playback begins? The following sentences indicate not to use distance estimates collected during playback, so why bother collecting the data in the first place?
EXT - 1	35	1498	SOP 2 - Estimating distance to each focal bird	This seems pretty intrusive
EXT - 2	36	1505	SOP 2 - Estimating distance to each focal bird	This section should also caution observers about the problem caused by the bird's orientation to the observer. Birds facing observers when vocalizing sound much closer than the same individual facing away from the observer, even when the bird has not moved. This issue frequently leads to the double-counting of individual birds as well as influencing distance estimates.
EXT - 1	36	1514	SOP 2 - Filling out the data sheet	Do these species then become the "target populations"?

EXT - 1	36	1524	SOP 2 - Filling out the data sheet	Consistency of word usage again – surveyor as official person detecting and recording, vs possibly “observer” who is just observing but not contributing to data (as indicated in next sentence)
EXT - 1	36	1545	SOP 2 - Recording detections of focal species	Assume ID can be alphanumeric, as shown in example sheet.
EXT - 1	36	1545	SOP 2 - Recording detections of focal species	When to record weather information? At start or end?
INT - 4	36	1548	SOP 2 - Recording detections of focal species	The data sheet and instructions should be modified to allow a surveyor to indicate exactly what playback was actually broadcast. There are many reasons why the marsh bird calls may not be broadcast (e.g., batteries die half way through a survey, surveyor notices a harrier very close to the station and decides to do a passive survey to minimize the chance of predation on a listed species, etc.).
EXT - 1	36	1549	SOP 2 - Recording detections of focal species	Suggest modifying the data sheet so that the 5 passive listening columns are under one header “Passive”, and those columns associated with call-playback are under “Response” or “Called During”. [the passive minutes aren’t really “response” but simply unsolicited calling, and birds may not actually be responding to a played call]
INT - 4	37	1551	SOP 2 - Recording detections of focal species	In SF Bay, folks like to use letters representing the type of vocalization rather than using a 1. Doesn’t really matter but this might make it difficult to enter the data into AKN.
EXT - 2	37	1572	SOP 2 - Recording detections of focal species	Especially when several minutes have passed between detections and the individual bird could have moved towards or away from the observers.
EXT - 2	37	1575	SOP 2 - Recording detections of focal species	It is also very important to stress the need for consistency when making these judgments. Significant bias is possible if changes in counting protocols can be misconstrued as changes in population size. Guidance should also be provided for situations when only single vocalizations are detected at various times from different locations at the survey point. Marsh birds can move, especially in response to playback, and a single individual can be responsible for multiple detections. When counter-calling is not present, should the observer be conservative and count only a single individual under this situation?
EXT - 1	38	1600	SOP 2 - Recording non-focal species (optional)	Suggest moving this to follow “Recording whether focal birds are in the target area” (so all focal-species info is together) or after “Distinguishing between king and clapper rails”
INT - 4	38	1640	SOP 2 - Recording types of calls	This addresses my comment above.

EXT - 2	39	SOP 2 - Birds detected at a previous point or 1660 between points	This example is very confusing and does not help explain this situation.
EXT - 2	39	SOP 2 - What to do if the surveyor becomes overwhelmed with 1684 detections	Based on their experiences, the authors should provide additional guidance on situations where this problem is likely to occur. Clapper rails in extensive salt marshes and American coots and common gallinules in certain freshwater habitats may be most likely to pose this problem. If this problem occurs on a fairly regular basis, should the observers use the same data recording approach for all surveys? Or, should they employ these other approaches only on an “as needed” basis. How important is consistency in data collection practices for these surveys? This issue should be discussed in this section.
EXT - 1	40	SOP 2 - What to do if the surveyor becomes overwhelmed with 1717 detections	Are you suggesting doing this on the fly, while conducting surveys and finding yourself overwhelmed? If so, and data sheets are already made up/in hand for the surveys, how to indicate on the sheet that you are ignoring them?
EXT - 2	41	SOP 2 - Distinguishing between king and 1736 clapper rails	Other potential problems that should be acknowledged here: these species hybridize to some extent and they may occur together in some brackish marsh situations.
EXT - 1	41	SOP 2 - Recording 1748 ambient noise level	Something to add to training sessions? Can include frogs calling and mosquitos!
EXT - 2	41	SOP 2 - Table SOP- 1753 2.1	Situations with “no” background noise are probably fairly rare. Does even the slightest noise qualify as “faint”. This term should also be defined to distinguish from “faint”.
EXT - 2	41	SOP 2 - Table SOP- 1753 2.2	This term should be defined to distinguish it from “moderate”.
INT - 4	41	SOP 2 - Recording 1753 ambient noise level	Given that folks may be (should be) carrying sound level meters, would it be helpful to provide decibel levels for each of the levels on the scale?
EXT - 2	41	SOP 2 - Weather 1765 restrictions	How about in light rain or drizzle? The precipitation conditions that are unacceptable should be clearly defined. But time-of-day protocol says nothing about night, only 30 min after sunset. Which is a mighty narrow time window to target. In my experience in the prairies and northcentral areas, winds are least in the morning when air and soil temperatures are least different, and winds die down at or after dusk.
EXT - 1	42	SOP 2 - Weather 1780 restrictions	

EXT - 1	42	SOP 2 - Recording 1795 weather conditions	Where? Don't see it on the data sheet.
EXT - 1	42	SOP 2 - Recording 1797 weather conditions	Data sheet shows F, not C
EXT - 2	42	SOP 2 - Table SOP- 1809 2.3	Should be a superscript.
INT - 4	44	SOP 2 - Recording 1815 water levels	Should be optional, not all surveys will be looking at water level management effects on marsh birds. Also, if the water gauge hasn't been tied to a known elevation (expensive), then the data may not be reliable or useful
EXT - 2	44	SOP 2 - Recording 1817 water levels	Citation missing from references section for this SOP.
EXT - 2	44	SOP 2 - Recording 1817 water levels	Date is 2008 for this publication in the references section.
EXT - 1	44	SOP 2 - Recording 1834 water levels	Record this where -- On the data sheet, or in the general protocol? Would be helpful to document gauge locations on the survey maps so their locations can be spatially related to survey points and management unit names/habitats.
EXT - 2	44	SOP 2 - Recording 1848 salinity	Provide some information on the equipment to use to measure salinity, just as was done for water gauges.
EXT - 1	45	SOP 2 - Recording date of fire, disturbance, or 1859 management action	Where? Under comment section?
EXT - 1	45	SOP 2 - Recording date of fire, disturbance, or 1866 management action	Are there other data sheets for this purpose, or is this something each Project Coordinator needs to develop and maintain? How will such data connect to the surveys for larger meta-analyses?
INT - 2	45	SOP 2 - Inclusion of an initial settling period (NOT recommended) 1878	Add something to indicate when a motorized watercraft is used, and perhaps make a solid recommendation.
INT - 4	45	SOP 2 - Multiple observer surveys 1903	This is almost impossible to control for.
EXT - 1	46	SOP 2 - Multiple observer surveys 1910 (optional)	Would be useful to include as example like Appendix E
EXT - 2	49	SOP 3 - Database 2038 description	Provide the complete name for this organization.
EXT - 2	49	SOP 3 - Data access 2057 roles	Is the appropriate word here "and" or "and/or" rather than "or"? "Or" implies that the data can be filtered by only one of these factors.

EXT - 1	50	SOP 3 - Creating a 2080 New Project	How often do expect this document to be updated? Including specific names here may cause confusion if people in those positions change in the near future. Instead (also?) give titles here and ensure the appropriate individuals can be quickly located on the web site.
EXT - 1	50	SOP 3 - Data entry, verification, and 2094 editing	Would be useful to explicitly indicate upfront the sets of data or sections to be entered (currently or planned for the future) – eg bird surveys (main data sheet), survey protocol, site conditions, habitat/vegetation?
EXT - 1	50	SOP 3 - Data entry, verification, and 2095 editing	Could data files also be uploaded as csv files?
EXT - 1	50	SOP 3 - Data entry, verification, and 2099 editing	But are these stored anywhere in AKN to link to the data? Not clear at this point
EXT - 1	50	SOP 3 - Data entry, verification, and 2102 editing	Available yet? Will there will be a separate protocol or set of information like these documents for entering habitat and vegetation data?
EXT - 2	51	2157 SOP 3 - Metadata	Given that FGDC metadata is the standard used by the Federal government, this section should at least mention this metadata standard and provide more information about developing standard metatdata for a project.
EXT - 1	51	2158 SOP 3 - Metadata	Would be helpful to indicate the fields in table or appendix
EXT - 1	51	2163 SOP 3 - Metadata	Identifying publications that used those survey data would be very useful for future data users – something to encourage.
EXT - 2	53	SOP 4 - Sources of 2199 variation	This citation is missing from the references at the end of this SOP.
INT - 3	53	SOP 4 - Sources of 2199 variation	Add to References
EXT - 2	53	SOP 4 - Sources of 2201 variation	For what?
EXT - 2	54	SOP 4 - Inventory: Species Composition 2236 and Distribution	Given that these trend graphs are likely to be misleading, and the following section addresses the need to incorporate detection into the trend analyses, should the user be encouraged to use this function? If anything, this paragraph should refer to the paragraph below for a discussion of the potential for these trends to be misleading and that this function should not be used as a replacement for a more detailed trend analysis.

EXT - 2	54	SOP 4 - Population Trend and Habitat 2242 Analysis	What is missing from this section is information about how to conduct these analyses. For surveys using distance sampling, reference should be made to the DISTANCE software available to conduct these analyses. For the other methods discussed here, the document should indicate if there are analytical tools available for conducting these analyses or if the Project Leaders will need to obtain statistical assistance in order to conduct these analyses. This important component of the marsh bird monitoring process should be described in sufficient detail here.
EXT - 2	54	SOP 4 - Population Trend and Habitat 2243 Analysis	Provide more specific guidance. A minimum of 5-10 years of data will be required before these analyses are possible. Specific guidance should be provided on the frequency that these analyses need to be repeated.
INT - 2	54	SOP 4 - Population Trend and Habitat 2250 Analysis	This seems to go against some of the discussion about not worrying about detection previously.
INT - 4	54	SOP 4 - Population Trend and Habitat 2257 Analysis	I think there is huge variation in distance to vocalizations reported by different surveyors (observer bias). Many other factors can influence perceived distance, including wind strength and direction, other ambient noise, the direction the bird is facing, the surrounding features that can inhibit sound (open water vs. veg), and the presence of channels, which conduct sound much differently than flat surfaces. I confess I don't trust the distance estimates.
EXT - 2	55	SOP 4 - Population Trend and Habitat 2272 Analysis	I presume this is the reference cited below.
EXT - 2	57	Appendix A - Table 2334 A.1	Add Ridgway's Rail to this table. Additionally for this table and the following table, capitalization of common names should be consistent with the rest of this document; these names were capitalized only when a formal name is included such as Virginia rail or Wilson's snipe.
EXT - 2	57	Appendix A - Table 2334 A.1	Why is Western Grebe missing from this list when all of the other grebes are listed?
EXT - 1	57	Appendix A - Table 2334 A.1	Tweaked column width in top row to match and changed indentation in species name column. Need to do same for next table
INT - 2	57	Appendix A - AOU 2336 Codes	Not recommended, so why include?
EXT - 2	57	Appendix A - Table 2342 A.2	Given that the non-focal species can include any bird species, this section should provide a link/reference to a source that will provide the 4-letter acronyms for all North American birds.

INT - 4		58	2347 Appendix B -Figure 1	It would be worthwhile contacting different parts of the country to find out when they conduct their surveys. SF Bay surveys are conducted January 15-April 15 (completely outside the recommended window); this is the period that they have found maximizes RIRA detection (Ridgway's Rail).
INT - 2		59	Appendix C - Focal Species and Field Data 2350	Combine with A
INT - 4		59	Appendix C - Table 2358 C.1	Does playback really increase detection prob?
EXT - 1		59	Appendix C - Table 2358 C.1	Order of these species under broadcast? Would be more helpful to have the codes in alphabetical order, and indented so Broadcast and Non-broadcast stand out better
EXT - 1		60	Appendix D - Table 2367 D.1	Described in text in the BNAs or actual audio file? Would be helpful to also indicate online source of audio files for training (tho that would take even more space)
EXT - 1		62	2367 Appendix E	Suggest splitting this 1 row into "Passive" and "Called During" sections
EXT - 1	NA	NA	General Comment	This protocol framework for surveys of secretive marsh birds a refuge or land area will be very useful for USFWS staff and others seeking to inventory or monitor marsh birds. The protocols have been significantly improved since the last version. Procedures generally are very clear, with good examples provided. I have few general comments. Full comments and some suggested changes or additions are included in the track-changes draft
EXT - 1	NA	NA	General Comment	One area of significant concern is the absence of information specific to yellow rails. This species is a focal species of concern and of interest to some northern refuges. Following the morning or evening survey protocol would seriously underestimate presence or abundance as the species calls primarily in the middle of the night. No information is given about appropriate survey protocol for this nocturnal species. Project leaders with a specific interest in yellow rails must consider scheduling for nocturnal surveys that would appropriately target yellow rails but not the other secretive marsh birds.
EXT - 1	NA	NA	General Comment	I remain highly skeptical of the value of distance estimation, particularly for birds you cannot see, but until more research is available across a range of species and environmental conditions, training and documentation as provided here is the best feasible approach.

EXT - 2	NA	NA	General Comment	The intended audience for this document needs to be specifically defined in the Introduction. This document appears to be aimed at US Fish and Wildlife Service (USFWS) refuge personnel, but that fact is not clearly stated. However, this document will reach a broader audience than just the USFWS refuge staff. Hence, this document should indicate how others should be able to follow this protocol to conduct marsh bird surveys even if they are operating under a different administrative system than then USFWS.
EXT - 2	NA	NA	General Comment	First and foremost, this document is an instruction manual. As such, its content should be expressed very clearly and simply so that someone without an extensive knowledge of marsh bird biology and survey experience can use the information to successfully initiate secretive marsh bird surveys.
EXT - 2	NA	NA	General Comment	In its current form, this document needs considerable editorial revisions. In general, this document is very wordy with an excessive use of parenthetical expressions and needless repetition. I made a number of editorial suggestions, but the entire document needs a very thorough editing to make it understandable to a user who may not be very familiar with the intricacies of marsh bird surveys. The shift from active to passive tenses among sentences, and in some cases even within a sentence, is also confusing. Use a single tense throughout the document.
EXT - 2	NA	NA	General Comment	The Data Analysis SOP (#4) discusses why these specific protocols are followed but does not discuss how to analyze the data. Where software is available that would allow a refuge biologist to analyze their survey data, such as the DISTANCE program used to analyze data collected by distance sampling methods, this manual should indicate where the software can be downloaded, what training may be necessary to use it, and other guidance that would help someone to understand the resources necessary to analyze that component of the marsh bird survey dataset. Where similar software is available for the other techniques to estimate detection probabilities, similar information should be provided.
EXT - 2	NA	NA	General Comment	This document needs to do a better job of indicating the resources that will be necessary to analyze these data. The lack of this information is a critical shortcoming of this protocol. Simply indicating to “consult a statistician” is not enough guidance. If a refuge is going to allocate resources to collect these data, then they need to understand the resources that will be required to analyze these data.

INT - 1	NA	NA	General Comment	Thanks for the opportunity to review the national protocol. It is certainly about as extensive a monitoring protocol as I've seen; my compliments. Overall, it accomplishes your two stated objectives.
INT - 1	NA	NA	General Comment	We have been surveying just the same 12 points for the last 12 years or so. They are all along a bayou with marsh on one or both sides. However, some have narrow strip of maritime forest between us in the boat and the marsh. So, some points are would be #7 and some would fit in Other. There is likely a difference in detectability between those two types of points; we can't hear as well and definitely can't judge distance as well from the points with intervening forest. Did include how we might address that bias?
INT - 1	NA	NA	General Comment	The 12 points here were selected because those were the only points that would fit within the available habitat, before there were any survey objectives. Did you include information for dealing with a sampling design that wasn't?
INT - 1	NA	NA	General Comment	I like the some of the detail in the training section. But if there has been no training for last 12 years, how would one compare the data before and after any training. It would be helpful to be much more specific about this 7 days of training. and 7 full days of training for 3 mornings of survey a year? Are there any guidelines on hearing test thresholds?
INT - 1	NA	NA	General Comment	We add MSCR to our non-focal species list.
INT - 1	NA	NA	General Comment	I may have missed, but was there a section on habitat/vegetation sampling and data analysis? We have not collected any, because some points have much easier access than others (the ones with maritime forest strip between bayou and marsh. We would like to start but how would one treat data points with different access to vegetation?
INT - 2	NA	NA	General Comment	Overall, the material is very thorough, perhaps to the point of unwieldy to a station biologist.
INT - 2	NA	NA	General Comment	I would rather see more directive detail in elements three and four, rather than referencing the SOPs
INT - 2	NA	NA	General Comment	Because there are so many SOPs, there is a lot of repetition in references
INT - 2	NA	NA	General Comment	Some of the reporting discussion seems overboard, as do some of the more general discussion of statistics and sampling. That discussion seems applicable to all sampling ad goes beyond secretive marshbirds.

INT - 3	NA	NA	General Comment	This document is well written and thorough enough that anyone who has never conducted a secretive marsh bird survey could easily follow the general protocol. A site-specific protocol for a refuge or other area could, relatively easily, be developed using this base document. The scientific procedures outlined in this document are clear and will facilitate achievement of the sampling objectives as well as support management objectives.
INT - 3	NA	NA	General Comment	I was pleased to see the inclusion of recording habitat characteristics as these are vital in understanding the relationship of these birds with land management activities.
INT - 3	NA	NA	General Comment	I thought that having a Reference section at the end of each chapter was duplicative and tedious. I suggest having only one Reference section at the end of the document that includes all references cited.
INT - 3	NA	NA	General Comment	For consistency, check the numbers in the document; some were written numerically when they should be spelled out.
INT - 3	NA	NA	General Comment	Additionally, be consistent with using spaces and abbreviations (primarily in SOP 2). For example, all of these were used: 5-min; 5 min; 5-minute, 5 seconds, 1 min; one-minute; 1 minute; 50m; 50 m; etc.
INT - 3	NA	NA	General Comment	I added this comment in track changes, but I think it is important enough to state it here; final reports should also be uploaded into ServCat. The document states (page 9) that results and reports should be archived at the refuge station, on the station's website and copies distributed to interested partners. I agree results should be archived at the refuge office, preferably also on the station server if one is available. Refuges generally don't upload reports on their website for availability to the general public, particularly if they include locations of listed species.
INT - 4	NA	NA	General Comment	Overall I think the protocol is very sound
INT - 4	NA	NA	General Comment	There were a lot of ancillary pieces of information that might not be needed by specific users (e.g., water height, salinity) and should be made optional.
INT - 4	NA	NA	General Comment	The potential sampling designs were useful. The data management section was very useful and will help bring more data into AKN.
INT - 4	NA	NA	General Comment	The data analysis SOP is fairly thin. I recognize the challenge of covering the wide array of analyses that one could perform with the data, but perhaps a few common types of analyses should be sketched out in greater detail (e.g., GLM for count data)

				*Are the scientific procedures clear and will they facilitate achievement of the stated sampling objectives and support management objectives? There are no specific management or sampling objectives because this is a very general protocol framework. So no, the procedures by themselves won't selves facilitate achievement of objectives. Site-specific management and sampling objectives will need to be developed by managers on the ground.
INT - 4	NA	NA	General Comment	
				*Will the information provided facilitate easy production of site-specific instructions? Yes, the information will greatly facilitate the production of site-specific instructions.
INT - 4	NA	NA	General Comment	
INT - 5	NA	NA	General Comment	Overall I thought the protocol framework is well thought out and clearly described.
				My only comments pertain to the plausibility of a single refuge instituting this protocol at their station given the minimum number of sampling points required to meet minimum statistical standards ie. 50 random points or 50 points per stratum, a sampling frequency of 3 times per year and for trends analysis maintain this effort for 20 years. This survey would require a substantial effort that would deter most biologist especially if you consider we likely have more than one strata of wetlands or wetland management strategy on a refuge and also conduct numerous surveys with a similar standard focused in the same 2-month period (waterfowl breeding pair surveys, landbird point count surveys, amphibian call surveys, shorebird surveys, large and small mammal surveys, and various habitat surveys). We have quickly exceeding the capacity of any single refuge biological program.
INT - 5	NA	NA	General Comment	
				This is particularly true if you also add in training requirements for field staff conducting all of these surveys . Most refuges do not have access to trained seasonal staff who return annually. Seasonal staff must be trained every year. In the protocol, it mentioned a minimum of 7 days of training for a marshbird survey that may involve only 5 species. Again multiple this by all the surveys we do annually. Without the budget and commitment by the Service to maintain a trained field staff that can work across multiple refuges and data management staff to handle data entry, summary and analysis these protocols seem to be mostly exercises in futility.
INT - 5	NA	NA	General Comment	

INT - 5	NA	NA	General Comment	I don't want to be too negative, but I don't see protocols with these sampling requirements being instituted on very many refuges. Are there refuges doing this level of marshbird bird monitoring? I am interested in seeing some examples. We do 2, 12 station routes 4 times a year and that is about all we can handle. (see additional comments under SOP 1)
INT - 5	NA	NA	SOP 1	I think the SOP needs to have more meat in it and some real world examples of a refuge based sampling design.
INT - 5	NA	NA	SOP 1	A table of minimum sample sizes for each sampling design would be helpful.
INT - 5	NA	NA	SOP 1	The need to confer with a statistician is frequently mentioned. Does the Service have one or many that a refuge biologist can contact or perhaps there is a statistician on contract we can contact with questions? A bit of tongue in cheek, however , if this resource is available perhaps some kind of contact list or process for getting this kind of advice would be helpful.
INT - 5	NA	NA	SOP 1	It seems that a lot of SOP1 will be common to many of our protocols. It appears that a lot of the SOP1 for this protocol came from the Midwest landbird protocol.
INT - 5	NA	NA	SOP 1	Perhaps a better tactic would be for the Service to put together a statistical handbook that provides more detail on survey sampling design including examples for different survey types. The handbook could also give details on processes for evaluating the adequacy of a sample size for detecting difference between strata such as habitats or temporal trends. Many of us have had statistics, but a good handbook could help refresh our minds and facilitate the design of a survey that isn't a waste of time. You could provide a whole section on GRTS not just a sentence and a citation. Frankly I don't have faith that the Service will ever have the staff or budgets to provide universal access to statisticians for project planning. Provide biologist a better DIY tool that can help them avoid the common pitfalls of survey design.
INT - 5	NA	NA	SOP 1	It should provide better guidance on each design rather than relying on general references to procedures with citations or statements that it is complicated and you should confer with a statistician.

INT - 5	NA	NA	General Comment	With regards to using the GAP Land Cover Classification. I agree that a national standard should be used for vegetation classification at survey points. The Ossification system proposed is good. However, the discussion on use of a GIS overlay of either potential survey grids or points in sampling design or classification of existing survey pints has some very real problems. I downloaded this map fro the LCC encompassing my refuge and found that there is a substantial error rate in the classification. Several mapped cover types at any level of the hierarchy don't even exist on the refuge and several areas mapped with cover classes that do occur in the area are misclassified. For example good portions of the refuge are mapped as big sagebrush types. this species does not occur on the refuge and never has. It also mapped many areas as a mixed conifer type. This this cover type does not occur here. Not a single grid was mapped as emergent vegetation although there are many blocks of this cover type in refuge wetland basins. This cover type has been consistently mapped as a forest cover type. The only wetland cover type mapped on the refuge is freshwater/open water habitat on the refuge.
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INT - 5	NA	NA	General Comment	The resolution is also entirely too coarse for many of the small rare habitats on the refuge such as vernal pools and aspen thickets. If a refuge is going to use this system for survey design, they need to have a refuge specific mapping done using this classification at a much finer scale. The classification system is workable but the existing product at least at our scale is unusable .
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