

MEMBERS PRESENT – Robert Conlon, Chairman (RC), Bert O'Donnell (BO), Art Lage (AL), James Kilcoyne (JK), Bill Grafton, Conservation Administrator (BG)

MEMBERS NOT PRESENT – Frank Woodfall (FW), Rick Carberry (PC)

CALL TO ORDER RC makes a motion to open the meeting at 7:00 pm. JK second. Approved 5-0-0.

MINUTES TBD

BUSINESS

B1 Phillips Farm Trail Maintenance and Upgrade / Erik Boyer

- Erik Boyer (EB), Stewardship Manager at Wildlands Trust, present to seek guidance on permitting for construction of a 130 ft boardwalk on an existing trail at Phillips Farm that has been inundated with water in recent years. They have received complaints from hikers that this section of the trail is not passable, and hikers are starting to go off trail and trample nearby vegetation. The proposed boardwalk would be constructed of pressure-treated wood. The trail section goes through BVW.
- BG notes that there is an exemption in Chapter 505 of the bylaw for open space trails, but this only applies to trails in the buffer to resource areas; this boardwalk would pass through a BVW. Some towns require a NOI for this kind of project, others require an RDA. RC thinks a NOI is required.
- In response to a query from RC, EB states the boardwalk will be supported by posts sitting flat on the ground; no digging will be involved. There are no existing boardwalks on the property but abutting properties with trails do have boardwalks.
- Commissioner consensus is that a NOI is appropriate since the boardwalk passes directly through a BVW.

B2 2019 Conservation Commission 2nd Half Meeting Schedule

- Discussed schedule for next 6 months that had been previously distributed. Commissioners approved.

NEW BUSINESS

DOA Form 2 Completion

- BG states that he has consulted with Town Counsel (TC) Bob Galvin based on comments received at the previous meeting about how the Determination of Applicability Forms (WPA Form 2) were being completed. Based on this conversation, he suggests the Commission issue Positive 5 (local jurisdiction applies) and Negative 3 (in buffer but no adverse impact anticipated) when approving Determinations of Applicability going forward. If an exemption applied, a Negative 5 finding would also apply.
- BG reads the Pos. 5 and Neg. 5 language on the Form 2 into the record.
- In response to a question from BO, BG is recommending this additional finding as a matter of procedural best practices.

PUBLIC HEARINGS

19-16 Kowolski, 20 Bradley (Deck).....NEW (Art)

- RC reads Legal Ad. Hearing Officer AL confirms administrative requirements are complete.

- Builder Tyler Thomson (TT) presents for applicant; they would like to expand an existing 10 x 12 ft deck to 16 x 12. They would add two footings and reuse the three existing footings. The deck would be expanded over existing lawn. In response to a query from AL, TT indicates the expanded deck will be attached to the home and not around the pool.
- AL asks for comments from the public, none.
- AL makes a motion to close and issue a DOA, Pos. # 5, Neg. # 3, with special conditions drafted by BG. BO second. Approved 4-0-0.

19-17 Lawson, 62 Marginal St. (Shed).....NEW (Art)

- RC reads Legal Ad. Hearing Officer AL confirms administrative requirements are complete.
- Applicant Lauren Lawson (LL) present. LL would like to take down an old shed in the 75 ft buffer and replace it with a smaller one outside of the buffer. The existing shed is 16 by 25 sq ft, and the new one will be 10 by 18 sq ft. There are three dead trees in the location of the new shed that she would like to remove.
- AL comments that he only saw two dead trees and asks about the location of the third tree. LL points out the location of the third tree on the map; AL feels this tree, an apple tree, is still alive and asks whether branches can be removed instead of it being cut down. All parties discuss whether the apple tree is within 100 ft of the resource area; JK comments that it appears to be close to the 100 ft line. RC, BO, and JK have no issue with removal of the apple tree.
- AL asks for comments from the public; none.
- AL makes a motion to close and issue a DOA, Pos. # 5, Neg. # 3, with special conditions drafted by BG. RC second. Approved 4-0-0.

19-18 Manning, 122 Marginal St. (ATF Road/Driveway & Veg Removal & Manag).....NEW (Art)

- RC reads Legal Ad. Hearing Officer AL confirms administrative requirements are complete.
- Applicant Patrick Manning (PM) indicates this is an after-the-fact filing for replacement of an asphalt driveway with crushed stone.
- AL asks whether applicant additionally wishes to add some asphalt down the side street near his home to replace what was torn up. PM confirms they were about to re-pave over this area when received the cease and desist order, but he wants to put down crushed stone past his driveway. BO asks who owns this stretch of road. PM indicates he had talked to his neighbors and was told that various neighbors owned different stretches of it. AL and BO indicate that this needs to be clarified before any work there can be permitted.
- BG states he received a written complaint concerning the activity, stating that the road was shared and their access rights were being impaired. JK asks whether the Commission can permit the work to continue without the road ownership being clarified. PM states they've owned the residence for two years, and have plowed and shoveled the road throughout this period. The road is currently in disrepair.
- JK asks PM about the tree cutting alleged in the complaint. This work was done a month beforehand; at the time, he did not understand that he needed to file for permission. JK comments that when he visited, he clearly stated not to compact the roadway and asks whether he did so. PM thought he was told the road could be rolled so people could get in and out. JK states he clearly said they could level the road but not to use the roller.
- All parties discuss the legal status of the road; RC states it appears to be an unaccepted road or possibly a private way. PM states he talked with neighbor Virginia Gaffey (VG), owner of 12 Careswell Street on two separate occasions regarding the road work, and she agreed to it. RC suggests that

language be added to the determination stating that the permit is “contingent upon the applicant’s ability to legally perform the proposed work”.

- AL asks for comments from the public; none.
- BG shows all present photos of the work area, including some sediment pushed into the edge of the salt marsh that needs to be removed. He feels these areas should be replanted with native, salt-tolerant species. He would also like to see conservation markers placed in the area to prevent further incursion. JK feels the sediment may have come down from the previous road being old and washed, but agrees to its removal; AL concurs as to both the sediment removal and placement of markers. BG feels markers should be placed along the driveway and lawn in order to protect the marsh.
- BO is still concerned about the legal ownership of the road; PM states he will verify this with DPW. He would like to see the road work finished regardless of who owns it.
- All parties discuss replacement plantings and settle on (5) five salt-tolerant shrubs, as well as (4) conservation markers along the property line. BG will assist PM with the plantings and the marking up of the site plan. PM has hired Frasca Landscaping for the plantings.
- BG reads the proposed special conditions into the record, including removal of all sediment within 25 ft of the salt marsh; planting of (5) five salt-tolerant shrubs; placement of (4) four conservation markers along the wetlands; and submission of updated (by hand acceptable) site plan showing plantings and markers. Determination is contingent upon applicant’s ability to legally perform the proposed work.
- AL makes a motion to close and issue a DOA, Pos. #5, Neg. # 3, and special conditions drafted by BG. JK second. Approved 4-0-0.

19-19 Enwright, 26 & 33 Autumn Ln., (Tree Removal & Veg Mang).....NEW (Rick)

- RC reads Legal Ad; reassigns Hearing Officer to BO; confirms administrative requirements are complete.
- Applicant Charlies Enwright (CE), president of the Condo Association, present. They would like to remove four hazard trees close to the building. They have received an estimate from Bogan Tree for the work, who suggested that a filing be made with the Commission. The trees to be removed include an oak tree leaning against a white pine, plus two additional trees presenting a hazard to Unit 33.
- BG indicates that the trees are within 100 ft of the wetland but outside the 50 ft buffer.
- BO and RC have no issue with the request.
- BO asks for comments from the public; none.
- BO makes a motion to close and issue a DOA, Pos. #5, Neg. # 3, with special conditions drafted by BG. BO second. Approved 4-0-0.

19-20 McCarthy, 667 Ocean Street (Deck).....NEW (Rick)

- RC reads Legal Ad; reassigns Hearing Officer to BO; confirms administrative requirements are complete.
- Applicant Matt McCarthy (MM) present; he would like to build a 12 by 20 ft deck on the rear of the house within all of the setbacks; it will have four footings.
- BG indicates that the subject property is in barrier beach, coastal dune, and land subject to coastal storm flowage (LSCSF). In response to a query from BO, this is not considered a substantial improvement. In response to a query from JK, the use of footings is not an issue as the property is not in a velocity zone, and the project is not a substantial improvement.

- BO asks for comments from the public; none.
- BO makes a motion to close and issue a DOA, Pos. #5, Neg. # 3, with special conditions drafted by BG.
AL second. Approved 4-0-0.

2805 Gray, 1150 Ferry Street (New Foundation & Bump Out).....NEW (Bert)

- RC reads Legal Ad. Hearing Officer BO confirms administrative requirements are complete.
- Bob Crawford (BC), EET, presents for applicant. The property includes a SFH on a 11,600 sq ft lot on Ferry Street. The proposed activity consists of tearing down about 60% of the house and rebuilding in the same footprint, adjacent to a section that will be raised up to the same elevation. About 40% of the house is in an AE12 flood zone and 60% is in AE10. The proposed first floor elevation will be 13 ft, one foot above the AE12. Total disturbed area is about 933 sq ft. A concrete foundation is proposed for the new wing, with five flood vents. There is also a 5 by 20 ft bump out in the back of the kitchen, southeast side of the house; this will be on three posts and not part of the foundation.
- BG comments that there is no net gain or loss of pervious space with the project as proposed, but the rest of the property is heavily pervious.
- BO asks for comments from the public; none.
- BG suggests special conditions stating to ensure the footprint of the pervious space depicted on the approved site plan remains open or use pervious coverage only, and to file a NOI for any work beyond the approved activities. The Commissioners feel these special conditions are not necessary. Applicant must provide an elevation certificate.
- BO motions to close the hearing and issue Orders of Conditions with special conditions drafted by BG.
RC second. Approved 4-0-0.

2800 DPW, Mill Pond Lane (Magoun Pond Dam Repair).....NEW (Bert)

- RC reads Legal Ad. Hearing Officer BO confirms administrative requirements are complete.
- Pat Brennan (PB), Amory Engineers, presents for Marshfield DPW. The proposed activity involves repairs to the Magoun Pond dam. In 2017, the Town was contacted by the Office of Dam Safety (ODS) directing them to repair the dam and bring it into compliance with the current safety standards. The dam is an earthen embankment with a downslope to a retaining wall, a spillway culvert controlled by stop logs, and four auxiliary spillway culverts. ODS does not want trees on earthen dams, as they can be destabilizing. DPW would like to remove several trees on the upstream face and remove a concrete splash pad below the auxiliary spillway culverts; the pad would be replaced with sloped riprap on top of crushed stone and filter fabric.
- PB and BG observed conditions in the area in January and noted invasive species in the area of the splash pad; BG requested that these be removed and replaced with native trees as part of the splash pad replacement; they will plant four red maples, and will work with BG on which species can be removed and which should be left alone.
- Applicants have a permit from the Office of Dam Safety and a letter from NHESP indicating the area is not priority habitat. DEP returned comments stating the project may required Chapter 91 permitting. PB has checked with David Hill, Chapter 91, who indicates a permit is only required if the waterway is navigable or is a "great pond" (over 10 acres in surface area). The pond is less than 10 acres, and therefore is not regulated by Chapter 91. No work will be done in either the pond or the downstream channel. There is no work contemplated on the primary spillway culvert, as it appears to be stable and functioning.

- BO asks PB about the duration of work; PB thinks it will take about 2-3 weeks in total. They would like to do the work in the August/September dry season. BO also asks about the tree removal. PB states that the tree stumps will remain, and will be monitored for decay.
- JK asks BG about what kind of vegetation can remain on earthen dams. BG feels the term “woody vegetation” is open to some interpretation, but thinks that plants such as sweet pepperbush are an ideal plant for the area, and notes they are already thriving in the dam area. JK reads a regulatory excerpt stating that wood vegetation growth on earthen dams is undesirable; BG notes that the regulations do not specify depth of roots. He would agree that trees should be removed. JK thinks the regulations indicate a preference for grass on earthen dams. PB states it would be difficult to get grass to grow on the dam and then mow it regularly. BG notes that there is already 40% coverage of pepperbush on the dam and would like this to remain. PB will discuss with the dam safety engineers what kind of vegetation should or should not be on the dam.
- BO asks for comments from the public; none.
- BG suggests special conditions to maintain a shallow-rooted and herbaceous cover of native wetland species along the bank of the dam and maintain the stumps of cut trees. A majority of Commissioners have no issues with these conditions.
- BO motions to close the hearing and issue Orders of Conditions with special conditions drafted by BG. RC second. Approved 4-0-0.

2808 DPW, 14-162 Bay Ave (Seawall Repairs).....NEW (Jim)

- RC reads Legal Ad. Hearing Officer JK confirms administrative requirements are complete.
- Jeremy Packard (JP), Foth Environmental, presents for applicant DPW with respect to their Region 1 Coastal Infrastructure repairs. This is the first round of conservation approvals for the repair of coastal infrastructure in town; Region 2 is Brant Rock, and Region 3 is the Ocean Bluff/Damon Point area. This filing concerns the following activity: already-completed repair of coastal infrastructure damaged in storms last March, which was already completed under the emergency authorization issued by DEP; remaining seawall and ramp repairs; ongoing periodic repairs and maintenance. This filing concerns 1900 linear feet of wall total; JP reviews storm damage to this stretch of infrastructure and the completed and proposed repairs, including replacement of a ramp destroyed in the storm and extension of it 15 ft seaward and repairs to a 129 linear ft section of seawall for which funds were not available previously. In all instances except for extension of the ramp, they intend to maintain the existing licensed structures in their original footprint. They will need a right of entry approval to do the work.
- BO notes that some residences have connected concrete decks to the seawall, in violation of the bylaw, and asks whether the proposed activity includes cutting the decks back. JP states that these are matters between the town and the offending property owner.
- AL asks if DPW would reattach previously attached structures to the seawall as part of the repairs. It is JP’s understanding that there is not supposed to be any type of private attachment to the seawall, and the restoration of such attachments is not included in this application. BG states it will be up to the Commission to issue conditions preventing such reattachments. RC asks if structures attached before the bylaw went into effect would be reattached. JP thinks Town Engineer Rod Procaccino (RP) could better speak to this issue.
- JK asks if repairs to two concrete staircases at entry points will be part of the project; JP states that DPW would have approval to repair these staircases if they so chose to do so during the three years the OOC remains open. JK feels that some repairs to the stairs are needed in order to properly repair the seawall.

- JK also asks whether a temporary extended ramp, for construction access, would be preferable to permanently extending the access ramp. JP notes that a permanent ramp may better channel foot traffic to and from the beach. BO asks JP whether they have an alternative to a permanent extended ramp; at the moment, they don't, as a permanent ramp is the preferred alternative.
- BG comments that the use of mats for heavy equipment at a recent project at Maccombers Creek prevented damage to the salt marsh; he would like to see similar techniques used for this project. JP feels that all parties should discuss construction access with RP.
- Bob Deininger (BD), 20 Bay ave, comments that most of the concrete ramp installed two years ago is gone, so why put a 15 ramp in that will go just as quickly? His family has been in the area for six generations, and feels the proposed repairs will be temporary at best.
- Tom Culligan (TC), 144 Bay Ave, asks if cracks closed with adhesive will be inspected for further repair. JP indicates that specific cracks would be assessed. TC also asks if a steel barrier will be put down at the base of the seawall to prevent it from being undermined. JP indicates there is no plan for barriers at this time; the permit is for maintaining the existing licensed structure. JP also notes that studies would be needed to determine whether a steel barrier would be effective in protecting the seawall.
- Fred St. Ours (FS), 84 Bay Ave, asks whether increasing the height of the seawall is contemplated. JP indicates this would not be part of this project. This has been done in other communities, but JP has heard nothing to that effect for Marshfield.
- David Russell (DR), 77 Bay Ave, notes that the stairway at Brighton Ave is in disrepair and presents a safety hazard. He would like to know if repair of these stairwells will be part of this project. JP indicates they are asking for approval for the town to make the repairs, but no work is pending at this point. DR also feels that extending the jetties by Green Harbor increased the erosion on his section of beach, and asks if this has been studied. BG feels that RP could better answer this question, but comments that seawalls generally tend to increase beach erosion.
- Martin Francis (MF), 123 Bay Ave, asks whether they are going to make the footing of the seawall any wider as he says was done at Brant Rock. He feels a larger footing is needed everywhere. He also states that the seawall at Brant Rock was increased in height about three feet. JP states the wall would look exactly as it does now from the base up, but the bottom would sit on a modern concrete footing.
- Paul Flavin (PF), 59 Bay Ave, agrees that the stairwells are in terrible repair and present a safety hazard. He also comments that a lot of the damage from the March storm occurred as a direct result of the seawall undermining rather than waves hitting properties. This impacted porches and foundations. PF feels they need to look at ways to prevent the repaired seawall from being undermined in the future. JK concurs and states that some kind of compacted material, not sand, will be used for backfill this time. JP adds that any backfill will be wrapped in geotextile, which will prevent loss of material.
- Michael McCormick (MM), 80 Bay Ave, comments that the work at his property was done quickly but doesn't think the remaining repairs need to be rushed. He also agrees that the stairs should be repaired as part of the project. JK comments that RP ultimately will decide what gets repaired and when.
- Ron McCarthy (RM), 46 Bay Ave notes that boulders have cut off his access to the beach. He would like them to be moved so people can get to the beach, and feels they present a safety hazard. JK concurs but notes this matter is outside Commission jurisdiction.
- Tom Duffy (TD), 6 Brighton Street, is concerned that repair of the accessways to the beach is not on DPW's radar. He would like to know who decided to place the boulders at the base of the stairs. JK asks JP whether removal of the boulders is part of the proposed project; JP indicates it is. TD asks

what the timetable for removal of the boulders would be. BG comments that the boulders were placed in response to the emergency at the time, and the removal timing would be set by RP and the contractors hired to do the work. TD also comments that rock has been stockpiled on top of the seawall around Brighton Street, preventing residents from using the top of the wall.

- Barbara Kelly (BK), 14 Brighton Street, asks if some of the seawall is privately owned? And if so, whether this would be part of the town's responsibility? JP's research indicates that the entirety of the project is municipal seawall. BK notes that this is just a rumor she has heard. BG can't confirm whether the entire seawall is municipally owned, but comments that the primary purpose of this NOI is to allow for it to be maintained more expeditiously long-term, and is the first step towards the work getting done.
- TD would like some guidance from the Commission as to how to get the access issues at Brighton Street addressed. RC comments that the first step is getting the NOI issued for the repairs and maintenance, and repair of the stairs is one of the next steps; the conversation about the actual repairs should be with DPW. JK adds that the Commission's responsibility is to issue the permit, properly conditioned, so residents can follow up with DPW regarding what work should have priority. BG adds that the permit, once issued, can get amended later to include additional work needed. JK suggests that residents concerned about access repairs talk to DPW, Town Engineer RP, and the Board of Selectmen. BG is willing to meet with residents as appropriate.
- JK asks about storage of spoil materials. JP states that erosion control will be put around any stockpiles. They will be asking for approval to stockpile any material in front of the seawall, and build a temporary berm to hold the excavation spoils. Any stockpile locations would be coordinated with DPW and the contractors doing the work.
- RC asks about the timeframe for construction once the permit issues. JP feels the seawall repairs will take about 3 months construction.
- AL would like clarity on what applicants will do with structures previously attached to the seawall. BG will provide JP with copies of the applicable regulations. AL would also like confirmation that there are no privately owned seawalls in this area. JK thinks a continuation is appropriate to allow for more information and further discussion about the ramp, and so RP can be present to answer questions.
- JK motions to continue the hearing until the June 18th public meeting. BO second. Approved 4-0-0.

2754 Hanlan, 72 Bay Avenue (Raze & Rebuild SFH).....cont from 9/11/18 (Bert)

- Request was received to continue the hearing until the June 18th public meeting.

2772 Snyderman, 26 Littles Lane (Pier, Ramp & Float).....cont from 10/2/18 (Jim)

- Request was received to continue the hearing until the June 18th public meeting.

2793 Sullivan, 176 Beach Street (Veg Restoration & Other Activities).....cont from 5/21/19 (Bert)

- Request was received to continue the hearing until the June 18th public meeting.

2792 Tulis, 0 Pinehurst (New SFH).....cont from 4/2/19 (Frank)

- Request was received to continue the hearing until the June 18th public meeting.

REQUESTS FOR CERTIFICATES OF COMPLIANCE & EXTENSIONS

2050 Stratton, 62A Landing Road [COC]

- BG states that applicants are in compliance with all conditions set forth in the OOC.

- RC makes a motion to issue a COC for 62A Landing Road. JK second. Approved 4-0-0.

ENFORCEMENT ORDERS

Smith, 38 Liberty Street **(11/19/18 KS will set early Dec visit)**

Drosopoulos, 7 Lady Slipper Lane **(08/15/18 TC Final Notice)**

New Owner, Winslow Avenue Ext.

Mahaney, 46 Preston Terrace **(12/12/18 BG met with TC)**

White, 180 Atwell Circle (Escalation letter in Process)

Bednarz/ Nouza, 65 Ireland Road (Unpermitted Cutting <= 50 ft)

Tamara Macuch, 237 Webster Avenue

Levangie, 3 Cove Creek (Communication in Progress)

Stifter, 102 Bartlett's Island (unpermitted revetment wall)

BUSINESS Continued

B3 34 Marginal Street Rear / 6 Cut River Boat Lift / Tim Shanahan

- Tim Shanahan (TS), 6 Cut River Rd, appears before the Commission to discuss the construction of a 50 ft dock with a boat lift, both supported by piles. He feels the project will be fairly low impact, and would like feedback from the Commission to ensure there are no deal killers. He has been working on the concept with BG and Harbormaster Mike DiMeo, and has hired a dock consultant for the design work. They are in the process of preparing an application.
- JK states he is not a fan of boat lifts, electrical/hydraulic infrastructure, or driving pilings into rivers. He is not against docks and catwalks, but is concerned about the visual impact of overdevelopment on the water. TS states that much of that infrastructure won't apply to this project. He also notes he was encouraged by the Harbormaster to do a 200 ft dock over the sandbar, out to the edge of the channel, but he feels that would have a much greater impact. He feels the dock he is proposing is fairly small; unlike his neighbors, he does not need a dock going all the way up to his house since the U.S. government placed dredge fill on his lot in the 50s, and he can easily walk to the edge of the river.
- TS distributes pictures to the Commissioners, noting that he is proposing single piles as opposed to double piles. The lift requires four pilings and will be run by winch, with no hydraulics. Electricity will probably come from a generator and not from wiring.
- AL comments that if this lift is approved, he expects other residents will come in seeking the same thing. TS feels this is a solution that specifically fits with the area, and doubts anyone else will want the same dock and lift he designed. JK feels that if everyone who has mud flats wants a dock and lift that would be a significant impact on the saltwater marsh, and therefore feels that this would be a precedent-setting decision. If TS feels that his property is unique, he suggests that he consider applying for a variance, which would reduce the Commission's risk of setting an improper precedent.
- TS feels that his property is unique due to the fill previously placed on his property, which essentially turned it into upland and not marsh. RC feels the Commission will need more information so it can evaluate exactly what the impacts are, as well as square footage, construction access, etc.
- TS feels that this concept is the lowest-impact way for him to access the waterfront, and what the Harbormaster proposed is a bigger project than he wants to undertake. RC suggests that TS show the Commission what the Harbormaster proposed for comparison purposes.
- TS also states that the cove on his property is used as a beach; the March storms took out about a third of the beach, and he is losing additional beach with every high tide. He would like to put in some

erosion control to protect the remaining beach, possibly coir logs. BG and the Commissioners advise that a permit would be needed for this work. AL notes he has dealt with similar issues on his property but has not done any reinforcement.

- All parties discuss a joint site visit with BG and the Harbormaster; JK notes that there has to be a formal filing before the Harbormaster will visit a site. TS is preparing an application with his consultants, and is willing to stake out the site for a visit.

B4 Salt Marsh UAS Project-UMASS Amherst / Amanda Davis

- Dr. Scott Jackson, UMass-Amherst, present representing his graduate student, Amanda Davis, who would like to conduct a salt marsh study in town. SJ shows the Commissioners a slide show containing the details of the study. SJ states they have an EPA grant, and have been doing salt marsh studies in several towns statewide. They would like to study a portion of the salt marsh abutting the South River, and would like the Commission's approval. SJ has been working with MassDEP and CZM on a wetlands assessment program, developing methodologies to assess wetlands across the state. They look at various stressors and biological indicators in the landscape that can affect the ecological integrity of different wetlands. Their models have worked well in fresh-water wetlands, but have underperformed in salt marshes, and they are looking to improve the model's functionality in this aspect. They would like to develop indicators for what kinds of uses may affect a salt marsh's health over the long term. SJ and AD are looking to collect data in salt marshes that will help them map the vegetation, bare ground areas, and water features, as well as look for evidence of degradation such as bank slumping, creek widening, seaward erosion, etc. They would start by collecting data on the ground, but ultimately want to train their computers to recognize these features using remote sensing data, starting with drones at various times in the tide cycle and ultimately using satellite data. Last year, SJ and AD used drones at five sites, two on the North Shore, one in Scituate, one in Westport, and one in Barnstable; they are looking to add five more drone sites this year, including the marsh by the South River. They are also working with sedimentologist Jon Woodruff (JW) at UMass to look at how sediment dynamics affect salt marsh elevation change. SJ states JW has already worked by the North River and has some insight as to how sediment moves in the area. SJ is seeking permission to conduct research in town-owned marshes along the South River; they would also contact private marsh land owners for permission to work there. There will be some work on the marsh surface, including about 6 to 12 GPS ground control points with 1-inch diameter PVC pipe. The points would be removed at the end of the season, and any impacts should be minimal. Other equipment used would include HOBO water level logger, which would be placed in creeks to gather water level data, and sediment collection traps and turbidity meters mounted on poles. They would also need a nearby access point from which to operate the drones; SJ believes nearby recreation land would be suitable. BG notes that the Recreation Department/Commission would have to be notified, but they tend to be cooperative. SJ states that the drones are operated by licensed and trained pilots, with the assistance of a spotter. The maximum altitude the drones can operate at is 400 ft; they are not permitted to fly over houses, streets, or people. They would be looking to overfly the marsh 1-2 times per month. They are happy to share any data and aerial images with the town. A team of two researchers will also need to walk the marsh to document vegetation zones and other features.
- BO notes that some of the marsh area they are looking to study is part of Recreation land on Coast Guard Hill, which extends some distance into the marsh. Audubon owns an additional section further down; they have received permission from Audubon and the Trustees of Reservations to work on their properties statewide. The Commissioners agree that the information gathered and shared will be useful to the town.

AJOURNMENT – RC makes a motion to close the hearing at 9:21 pm. AL second. Approved 4-0-0.

Respectfully submitted,
Liz Anoja, Conservation Administrative Clerk
Marshfield Conservation Commission

Bill Grafton, Conservation Administrator	
Robert Conlon, Chairman	Bert O'Donnell
Frank Woodfall	James Kilcoyne
Rick Carberry	Art Lage