

CHARLOTTE SELECTBOARD

Agenda for Tuesday, June 23rd, 2025

Charlotte Town Hall, 159 Ferry Road

To join meeting online (via Zoom) please click the link [here](#).

To join meeting by phone please call **1-929-205-6099** and dial the **Meeting ID** and **Passcode** below:

- **Meeting ID:** 880 2491 0208
- **Passcode:** 123456

Please contact Nate Bareham, Town Administrator at (802)-425-3071 ext. 5 or at townadmin@townofcharlotte.com, with any comments, questions or requests for accommodations for this meeting. Reasonable accommodations shall be provided upon request to ensure this meeting is open and accessible to everyone.

MEETING AGENDA:

<i>TIME</i>	<i>ITEM</i>
7:00 PM	Approval of Consent Agenda <ul style="list-style-type: none">a. Meeting Minutes for June 9th, 2025
7:05 PM	Adjustments to the Agenda
7:10 PM	Public Comment for items not on the Agenda
7:15 PM	Selectboard & Town Administrator's Updates
7:20 PM	Discussion of request for proposals with the Charlotte Energy and Climate Action Committee
7:35 PM	Discussion of wildlife mapping quotes with the Charlotte Conservation Commission
7:55 PM	Establishing employee salaries for FY25
8:00 PM	Charlotte Board of Sewage Disposal Commissioners: <ul style="list-style-type: none">a. Discussion of Annual Sewer Use Rates – Quarterly Administrative & Infrastructure Fee
8:20 PM	Discussion of Collective Bargaining – Executive session likely per 1 V.S.A. § 313(a)(1)(B)
8:30 PM	Discussion of Personnel – Executive session likely per 1 V.S.A. § 313(a)(3)
8:40 PM	Discussion of Town Contracts – Executive session likely per 1 V.S.A. § 313(a)(1)(A)
8:50 PM	Signing of Warrants
9:00 PM	Adjournment

Selectboard Members: Lee Krohn, Chair; Frank Tenney, Vice Chair; Lewis Mudge; Natalie Kanner; JD Herlihy

Town Administrator: Nathaniel Bareham

Minute Taker: Brooke Milo

Next Meetings: July 14th, 2025; July 28th, 2025

Town Administrator's Report June 23rd, 2025

Approval of Consent Agenda:

- a. Meeting Minutes for June 9th, 2025
 1. Minutes of the last regular Selectboard meeting.
- b. **A suggested motion is:** "I move to approve the consent agenda for June 23rd as presented."

Discussion of request for proposals with the Charlotte Energy and Climate Action Committee:

- a. The Charlotte Energy and Climate Action Committee has requested time to review, and possibly approve, draft requests for proposals.
- b. At the time of drafting my staff report, we haven't received copies of those RFPs. Once I've received them, I'll provide an update to the Selectboard, and include them in your meeting packet (and on the Town's website).

Discussion of wildlife mapping quotes with the Charlotte Conservation Commission:

- a. The Charlotte Conservation Commission ("CCC") has requested time to discuss a possible mapping project in Town. I've included copies of the proposals received by the Conservation Commission in your meeting packet.
- b. During last year's budget cycle, the Selectboard opted not to include funding for this project and requested the CCC to provide additional information regarding the cost/rationale for the project. This is an opportunity for the CCC and Selectboard to discuss this request in advance of our next budget cycle for FY26.

Establishing employee salaries for FY25:

- a. The Selectboard authorized a 3% Cost of Living Adjustment ("COLA") for staff for the FY25 fiscal year.
- b. **A suggested motion is:** "I move to approve a 3% cost of living adjustment for Town employees beginning July 1, 2025, as presented in the Town's approved budget."

Charlotte Board of Sewage Disposal Commissioners (Discussion of Annual Sewer Use Rates – Quarterly Administrative & Infrastructure Fee):

- a. The Selectboard will need to recess and reconvene as the board of sewage disposal commissioners.
 1. **A suggested motion is:** "I move to recess as the Charlotte Selectboard and reconvene as the Charlotte Board of Sewage Disposal Commissioners."
- b. At your last meeting, the Board of Sewage Disposal Commissioners approved the proposed "initial connection fee" for those wishing to connect to the Town's West Village Wastewater System.

- c. This time has been set aside for the Board to discuss how the Board wants to structure the Quarterly Administrative and Infrastructure Fee, and to request any clarifying information that the Board would like to have the Town Administrator research before a final fee structure is approved. A brief summary is provided below.
- d. Discussion of the Quarterly Administrative & Infrastructure Fee:
 - 1. The Quarterly Administrative and Infrastructure Fee covers the pro-rata share of overall administrative costs, including annual system inspections, audit, billing, and the like. This is a flat fee based on the number of connections to the system divided by \$5,000 of estimated administrative costs [Quarterly costs = (\$5,000/3)/4].
 - 2. The question that the Board should discuss is whether Town facilities should be included in the number of connections used to calculate the Quarterly Administrative and Infrastructure Fee.
 - i. An argument can be made that anybody who is connected to the system should pay their fair share of the overall administrative costs for the system.
 - ii. The other argument is that these new connections have created some of these new administrative costs, and should therefore be responsible for covering these additional costs.
- e. Once this discussion has concluded, the Board will need to reconvene as the Selectboard.
 - 1. **A suggested motion is:** “I move to adjourn as the Charlotte Board of Sewage Disposal Commissioners and reconvene as the Charlotte Selectboard.”

Discussion of Collective Bargaining – Executive session likely per 1 V.S.A. § 313(a)(1)(B):

- a. This requires a two-part motion of the Selectboard.
- b. First, the Selectboard must find that pre-mature general public knowledge would clearly place the Selectboard at a substantial disadvantage.
 - 1. **A suggested motion is:** “I move to find that premature general public knowledge of these collective bargaining negotiations would clearly place the public body at a substantial disadvantage.”
- c. Second, the Selectboard may then make a motion to enter into executive session.
 - 1. **A suggested motion is:** “I move to enter into executive session for the discussion of collective bargaining negotiations per 1 V.S.A. § 313(a)(1)(B). I further invite _____ into this session.”

Discussion of Personnel – Executive session likely per 1 V.S.A. § 313(a)(3):

- a. To enter into executive session, **a suggested motion is:** “I move to enter into executive session to discuss the possible appointment of a Town Planner, and a Zoning Administrator, per 1 V.S.A. § 313(a)(3). I further invite _____ into this session.”

Discussion of Town Contract(s) – Executive session likely per 1 V.S.A. § 313(a)(1)(A):

- a. This requires a two-part motion of the Selectboard.
- b. First, the Selectboard must find that pre-mature general public knowledge would clearly place the Selectboard at a substantial disadvantage.
 1. **A suggested motion is:** “I move to find that premature general public knowledge of these discussions of an existing Town contract would clearly place the public body at a substantial disadvantage.”
- c. Second, the Selectboard may then make a motion to enter into executive session.
 1. **A suggested motion is:** “I move to enter into executive session for the discussion of a Town contract per 1 V.S.A. § 313(a)(1)(A). I further invite _____ into this session.”

1 **CHARLOTTE SELECTBOARD MEETING**
2 **Monday, June 9, 2025**
3 **Charlotte Town Hall 159 Ferry Road and via teleconference**
4 **DRAFT**

5 *Draft minutes are subject to correction by the Charlotte Selectboard.*
6

7 **SELECTBOARD MEMBERS:** *In person:* Lee Krohn, Chair; Frank Tenney, Vice Chair;
8 Lewis Mudge; Natalie Kanner; J.D. Herlihy
9

10 **ADMINISTRATION:** Nathaniel Bareham Town Administrator
11

12 **OTHERS:**

13
14 **In person:** Annie Cooper, Charles Russell, Mary Joselyn, Sharon Mount, Maura Wygmans, Cliff
15 Mix, Mary Cheney, MJ Sleeper,
16

17 **Remote:** Eli Lesser-Goldsmith, Paul Plante, Barbara Russ, Brenda Waters, Chea Waters Evans,
18 Brett Yates, Carrie Spear, Hugh Lewis Jr., Julie Phelps, Wolfger Shnieder
19

20 **AGENDA ITEMS:**
21

- 22 6:00 PM Site Visit for HAP-25-01 at 435 Dorset Street
23 7:00 PM Approval of Consent Agenda a. Meeting Minutes for May 12th & 27th, 2025
24 7:05 PM Adjustments to the Agenda
25 7:10 PM Public Comment for items not on the Agenda
26 7:15 PM Selectboard & Town Administrator's Updates
27 7:20 PM Highway Access Permit (HAP-25-01) – MJ Sleeper & Liam O'Farrell
28 7:30 PM Selectboard interview, and possible appointment, of Eli Lesser-Goldsmith to the
29 Conservation Commission
30 7:40 PM Review of Charlotte Tree Planting, and Tree Removal, applications with the Tree
31 Warden
32 7:50 PM Discussion, and possible action, on an ADA ramp and handicap parking space at
33 the Town Beach
34 8:05 PM Charlotte Board of Sewage Disposal Commissioners:
35 Discussion of Annual Sewer Use Rates – Quarterly Administrative &
36 Infrastructure Fee
37 8:25 PM Discussion, and possible action, on renewing the Town's ChargePoint service
38 agreement
39 8:30 PM Discussion of Personnel – Executive session likely per 1 V.S.A. § 313(a)(3)
40 8:40 PM Discussion of Town Contract(s) – Executive session likely per 1 V.S.A. §
41 313(a)(1)(A)
42 8:50 PM Signing of Warrants
43 9:00 PM Adjournment
44
45

46 Call to Order

47 Lee Krohn called the meeting to order at 7:03 p.m.

48

49 Site Visit for HAP-25-01 at 435 Dorset Street

50 Lee Krohn stated that a site visit took place earlier this evening and will be discussed later in this
51 meeting.

52

53 Approval of Consent Agenda a. Meeting Minutes for May 12th & 27th, 2025

54

55 **MOTION by J.D. Herlihy, seconded by Lewis Mudge, to approve the consent agenda for**
56 **June 9, 2025, as presented. VOTE: 5 ayes, 0 nays; Motion Carried.**

57

58 Adjustments to the Agenda

59 None

60

61 Public Comment for items not on the Agenda

62 Annie Cooper stated that she has a swim program called Swim With Annie. She has taught more
63 than 10,000 families in the Chittenden County area to swim. The Vermont Water Safety Action
64 Committee that is led by the Burlington's YMCA Aquatics Director, Jess Lukas, is a great
65 resource. There are many talented people on the committee. If each municipality could create
66 their own water safety committee they could decide what bodies of water are contained within
67 the town borders and then consider the safety. Within the committees creative conversations
68 could happen regarding water safety and resources for swim lessons etc.

69

70 Selectboard & Town Administrator's Updates

71 Lewis Mudge stated that the week before last he and Natalie Kanner attended the meeting that
72 addressed the union issue and it was very productive and positive. There is another meeting
73 coming up this Thursday.

74

75 Natalie Kanner stated that the Energy and Climate Action Committee continues to move forward
76 on their efforts to investigate the possibility of getting some solar panels in town and doing some
77 conversions of HVAC systems in municipal buildings. Discussion has happened with the bond
78 bank and hopefully there will be some public information sessions on that in the near future.

79 Natalie Kanner stated that the Recreation Commission has a lot going on including development
80 of a survey to investigate what the community beach uses are and to get some input on the
81 bathhouse project. As a reminder they received a first round of funding that has allowed them to
82 start the process of investigating a new bathhouse at the Charlotte Beach.

83

84 Frank Tenney stated that all is going well with the DRB's progress with discussions of rules of
85 procedures and maps.

86

87 J.D. Herlihy stated that he had some scheduling conflicts and was unable to attend the last couple
88 of meetings for the PC and the last Senior Center meeting. He was able to read the notes from
89 Lori York though and right now the Senior Center is over budget on revenue and under budget
90 on expenses. One thing they're getting concerned about is the age of the building being 23 years
91 old. Therefore, they're looking at the things that are going to need repair and planning for

92 budgeting for those future needs. The plant sale was cancelled but due to being over budget
93 primarily due to having a vacant role for the Assistant Director they should be fine financially.
94 He went on to state that they're getting a large screen TV for meetings and presentations which
95 was partially donated by Brandon Tieso who arranged matching funds from his company for it.
96

97 Lee Krohn stated that he would like to thank the folks that continue to work on the monument at
98 the intersection, putting up trellis' and displays of lovely flowers.

99 Lee Krohn stated that several residents have received scam emails allegedly from his town email,
100 from scammers posing as him and he has taken the necessary steps to put this to an end with
101 changing his login credentials.

102 Lee Krohn stated that he and Nathaniel Bareham attended the meeting of the Thompson's Point
103 lease holders and had good conversation regarding things to think about as a group of neighbors.
104 Lee Krohn stated that interviews are continuing for the Zoning Administrator and tomorrow
105 there will be two interviews that he will attend for a Business Manager/Operations Manager for
106 CVFRS.
107

108 Nathaniel Bareham stated that interviews are happening for the position of Town Planner in the
109 next week or so. There is a very qualified applicant and the hopes are to get this interview to
110 take place ASAP. There have also been applications submitted for the Recreation Director
111 position from two very qualified applicants. The hopes are to get these interviews scheduled
112 soon as well.

113 Nathaniel Bareham stated that in terms of infrastructure Vermont water could come out and do
114 an inspection of the town's filtration system at the town hall. It's getting to the point where
115 there's a need to look at replacing it in the next year or two.

116 Nathaniel Bareham stated that Jack Pilla reached out regarding getting a survey put together to
117 look at usage of the town trails. The plan is to look at getting some QR codes put up at various
118 locations around town to try and capture how much use there is of the town trails.
119

120 Lee Krohn stated that infrastructure needs are going to be something that the Selectboard will be
121 hearing more and more about over time and it begs the question about capital planning and
122 reserve funds for things like this.
123

124 **Highway Access Permit (HAP-25-01) – MJ Sleeper & Liam O'Farrell**

125 Lee Krohn stated that he, Frank Tenney and Nathaniel Bareham attended the site visit earlier this
126 evening. Hugh Lewis, Jr. has taken a look at it. Nathaniel Bareham has included some
127 information on this HAP in tonight's packet and there are some requirements from the DRB. MJ
128 Sleeper had the Charlotte Fire Chief out to the site as well as the state police. It's possible that
129 some minor improvements might be needed.

130 Hugh Lewis Jr stated that the first 20 feet of the entrance should be widened to 18 feet. It's
131 currently 20 feet at the start and roughly 12 feet at the tapered in location.

132 MJ Sleeper stated the DRB had approved this with conditions, one of which was to widen the
133 first 20 feet of the driveway to 18 feet wide to allow better access for emergency vehicles to
134 come and go as needed. The DRB also gave a condition to widen the remainder of the driveway
135 which is 600 feet with a turn around. After speaking with the fire chief from CVFRS and the
136 state police it was determined that widening the initial portion of the driveway, the first 20 feet to
137 18 feet and a small portion at the turn around by another 2 feet would be sufficient. She also

138 spoke with Hugh Lewis Jr. on the phone regarding this. She went on to state that this HAP is to
139 allow for the move of her preschool that's been in South Burlington in Cider Mill for the last
140 four years to a barn that is currently on her property. The maximum amount of children will be
141 will be 14. Her first priority is the safety of the children and the families she serves. She is
142 asking for reconsideration of the conditioned widening of her entire driveway because it doesn't
143 seem necessary as far as emergency access is concerned.

144 Hugh Lewis Jr. stated that the culvert is sufficient.

145 J.D. Herlihy stated that he wonders if MJ Sleeper is aware of the B71 standards.

146 MJ Sleeper stated that she's unsure if she has seen the B71 standards. She thought due diligence
147 was accomplished with speaking with the fire chief and the state police as well as Hugh Lewis Jr
148 regarding the widening of the driveway DRB condition.

149 J.D. Herlihy stated that the B71 standards state that the driveway should be a minimum of 24 feet
150 to allow for entering and exiting vehicles to pass each other.

151 Lee Krohn stated that the B71 standards are a one size fits all and are more for commercial
152 entities where there are large trucks entering and exiting with deliveries and pickups.

153 Nathaniel Bareham stated that the condition of the DRB was that the applicant apply for a HAP
154 since the curb cut is residential and they didn't specifically state an expectation of B71 standards.

155 Frank Tenney stated that this HAP was applied for as commercial and this situation may not
156 need a commercial curb cut since it's a home business. Therefore, perhaps the Selectboard
157 should be looking at Detail 1 instead of Detail C which is a residential drive with a minimum of
158 12 feet, up to a maximum of 24 feet.

159 MJ Sleeper stated that she had this preschool in her home in Cider Mill where she lived in South
160 Burlington as a home licensed childcare program. Due to the barn not being physically
161 connected to her home in Charlotte she couldn't just move her home licensed childcare program
162 there she had to open a center based childcare center. It is the same business but because there is
163 no connection between the two buildings the state requires that she open it as a center based
164 program which is what triggered all this commercial use of the property. At this time, she has 13
165 families with 14 children on Monday, Tuesday and Wednesday and 12 children on Thursday and
166 Friday.

167 Discussion was had regarding the requirement of the state for the business to be licensed as a
168 commercial enterprise but that the highway access doesn't correlate with that requirement by law
169 since it falls under the town's regulations and not the states.

170

171 **MOTION by Lewis Mudge, seconded by Natalie Kanner, to approve Highway Access**
172 **Permit (HAP-25-01) – MJ Sleeper & Liam O'Farrell as presented. VOTE: 5 ayes, 0 nays;**
173 **Motion Carried.**

174

175 **Selectboard interview, and possible appointment, of Eli Lesser-Goldsmith to the**
176 **Conservation Commission**

177 Eli Lesser-Goldsmith stated that he has been looking for a way to get involved with the town for
178 a while now and saw this opening and decided to apply.

179 Natalie Kanner asked Eli Lesser-Goldsmith a series of questions provided by the Conservation
180 Commission. She went on to ask how he would define conservation in his own words?

181 Eli Lesser-Goldsmith stated that conservation is taking care of the town and the resources it has
182 in a respectable way while still making room for innovation and new residents and exciting new
183 things that want to happen in Charlotte.

184 Natalie Kanner asked if Eli Lesser-Goldsmith had ever advocated for environmental or
185 conservation issues?

186 Eli Lesser-Goldsmith stated he considers himself an environmentalist. He has done many things
187 personally and through his business to take care of Vermont farms, agricultural, farmers and
188 producers. His business has been a leader in environmental issues for a long time. He's proud to
189 be a lifelong Vermonter and he loves the Vermont's natural beauty and landscape.

190 Natalie Kanner asked, Eli Lesser-Goldsmith what concerns him most about environment and
191 environmental change in Vermont?

192 Eli Lesser-Goldsmith stated that his concerns are how the town views economic development
193 and growth and development and housing. There has been a skewed view of it in Vermont for a
194 long time. This view is changing now in a respectable, calculated and measured way. There are
195 a lot of things happening in Montpelier and the hopes are that it trickles down to towns like
196 Charlotte, Shelburne and Hinesburg since these towns have a lot of opportunity for great things
197 to happen.

198 Natalie Kanner asked if a development proposal meets zoning requirements but could fragment
199 wildlife habitat how would he approach that situation?

200 Eli Lesser-Goldsmith stated that he would look for guidance from the experts such as the Agency
201 of Natural Resources or people at the state level.

202 Natalie Kanner asked what role should local government play in protecting natural resources?

203 Eli Lesser-Goldsmith stated that there are a lot of different scenarios that would be under the
204 umbrella of that question and he didn't have an answer consequently.

205 Eli Lesser Goldsmith stated that he would be willing and able to attend the Conservation
206 Commission meetings and that he would be willing to also review the maps, plans and land use
207 regulations to fully understand conservation concerns.

208 Natalie Kanner asked what strengths he will bring to the town's conservation work?

209 Eli Lesser-Goldsmith stated that his strengths are that he is a life long Vermonter who believes in
210 Vermont's ability to be a healthy place to live and work.

211 Natalie Kanner asked what do you hope Charlotte looks like in 25 years and what role should
212 conservation play in getting there?

213 Eli Lesser-Goldsmith stated that his hopes would be that Charlotte will be a much more open and
214 welcoming place for many more people that want to make it their home. There is a lot of
215 potential for really thoughtful and respectable growth and development in Vermont. What is
216 going on at the state level currently is needed if we want Vermont to be a place where our
217 children can come back to after they venture off and he is hoping to make that happen.

218 Natalie Kanner asked if a different area of the town might be a better fit for his volunteer efforts
219 since the Charlotte Conservation Commission works toward conserving wildlife habitats and the
220 conservation of land and not so much trying to get toward more development.

221 Eli Lesser-Goldsmith stated that he is simply looking to serve and help the town.

222 J.D. Herlihy asked what he would hope to accomplish as a member of the Conservation
223 Commission?

224 Eli Lesser-Goldsmith stated that wherever he volunteers his goal is to help make the group
225 progress, evolve and to make it better.

226 Discussion was had by the Selectboard regarding the benefits to boards having diversity with
227 viewpoints.

228 Sharon Mount stated that she is on the Charlotte Conservation Commission and she asked Eli
229 Lesser-Goldsmith if he had attended any of the commission's meetings so that he has a clear
230 understanding of what being a member involves with understanding the town mapping etc.?
231 Eli Lesser-Goldsmith stated that he had attended one or two meetings back when the health
232 center was up for review.
233

234 **MOTION by J.D. Herlihy, seconded by Frank Tenney, to appoint Eli Lesser-Goldsmith to**
235 **the Conservation Commission for a term beginning on June 10th, 2025, and ending on**
236 **April 30th, 2027. VOTE: 5 ayes, 0 nays; Motion Carried.**
237

238 **Review of Charlotte Tree Planting, and Tree Removal, applications with the Tree Warden**

239 Cliff Mix stated that he has been receiving a multitude of tree cutting requests. In this process it
240 was determined that there is no record keeping system in place for documenting tree planting or
241 removal. Mary Cheney came up with the idea and together they created a couple
242 forms/applications for both planting and tree removals in the form of pdfs.

243 Mary Cheney stated that many people that requested cutting of trees were surprised that the
244 request required a site visit and often times they were told that the tree couldn't be taken down as
245 it was a healthy tree. These documents could be available on the town website and following
246 them being filled out and submitted to the tree warden she and Cliff Mix will take the
247 appropriate steps going forward from there. She went on to state that they looked at what other
248 town's are doing. Claudia Mucklow, who is also a Deputy Tree Warden, has seen and approved
249 the documents as well. The form is for trees in the town's right of way.

250 Lee Krohn stated Tree Wardens have jurisdiction within town highway rights of way as well as
251 town owned properties. Thompson's Point poses the question of how to balance public and
252 private rights there. The committee would like for the Tree Warden and Deputy Tree Warden's
253 to come to the August meeting.

254 Mary Cheney stated that they're on the agenda to do that. Everyone they have spoken to at
255 Thompson's Point has been very receptive to learning.

256 Frank Tenney stated that according to tree laws and definitions the town doesn't have
257 jurisdiction unless it's a town planted tree or it was designated as a shade tree pursuant to a town
258 shade tree protection plan. The town doesn't have a shade tree plan in place.

259 Mary Cheney stated that she realizes this but that when she took the role of Deputy Tree Warden
260 and Cliff Mix took on the role of Tree Warden she reached out to state attorneys to get
261 clarification and if the town doesn't have a tree plan in place it goes back to the old legislation.

262 Frank Tenney stated that he feels that the town attorney should be consulted on this for
263 clarification. For example, his home is in the town right of way due to the road being moved
264 since his house was built making for a unique situation but it is a situation that needs to be
265 considered. He went on to state that he appreciates all the work that is being done with these
266 applications and he agrees that they are needed, he is just wanting to protect some of the rights of
267 the people with further clarification.

268 Cliff Mix stated that the trees that have been dealt with so far have been on Thompson's Point
269 property. Other than the trees around the Charlotte Town Hall there really aren't any trees on the
270 roads. Twenty-five feet from the center line is the right of way and you'll find very few trees in
271 that right of way.

272 Discussion was had regarding the understanding of the Selectboard and the Tree Warden and
273 Deputy Tree Warden's that clarification is needed regarding jurisdiction as these applications are
274 needed to assist with record keeping and compliance.

275 Cliff Mix stated that this fall would be a good time to work on and complete a Shade Tree Plan
276 since now is a busy time with Thompson's Point. He went on to state that there are Shore Line
277 District rules and laws, Thompson's Point leases and what it says they can do with their woody
278 vegetation. Basically, they have to deal with three to four considerations when dealing with
279 things on Thompson's Point property.

280 J.D. Herlihy stated that there is also the town zoning that doesn't align with the shore line rules
281 and laws.

282 Discussion was had regarding the need to bring all these factors together to create cohesiveness.

283 Frank Tenney stated the ZA and the Tree Warden and Deputy's could create a guideline for the
284 Thompson's Point residents. A lot of these things should have been done years and years ago.

285 Cliff Mix stated that these forms/applications were created so that the landowners would fill
286 them out prior to getting a contractor.

287 Natalie Kanner stated that she is hearing that Mary Cheney and Cliff Mix created these forms to
288 help with process. It seems we should approve at least the planting to honor their hard work on
289 this.

290 J.D. Herlihy stated that the language at the top of the forms could be changed to town property
291 eliminating right of way until that portion is cleared up.

292 All concurred with this.

293

294 **MOTION by J.D. Herlihy, seconded by Natalie Kanner, to approve the forms as presented**
295 **and then amended with the striking in the town right of way by the Charlotte Tree Warden**
296 **and Deputy Tree Warden. VOTE: 5 ayes, 0 nays; Motion Carried.**

297

298 All members of the Selectboard expressed their sincere gratitude for the time and effort of Mary
299 Cheney, Charlotte Deputy Tree Warden and Cliff Mix, Charlotte Tree Warden.

300

301 **Discussion, and possible action, on an ADA ramp and handicap parking space at the Town**
302 **Beach**

303 Maura Wygmans stated that this is an ADA accessible ramp that will replace the former ramp
304 design that had state approval for permitting and had received a grant. It was roughly \$11,500
305 grant that was received by the town. This former ramp took two years to get through the system
306 and by that time the price of the dock had increased and consequently the funding didn't cover
307 the cost of the dock which set the planning back. At town meeting a motion was made by Tom
308 Hengelsberg that strongly suggests that this ramp should be ADA compliant. She went on to
309 state that per ADA code and VT statutes, beach access is not required to be accessible. Despite
310 this, it's general consensus that this ramp should be ADA accessible. During a site visit over a
311 month ago with Hugh Lewis Jr. present it was expressed by him that this work should correlate
312 with the paving on Lake Rd for economic benefits. Phase one of this ramp project would involve
313 creating a handicapped parking space/unloading spot where eventually the ADA ramp will be
314 installed from the road level to the beach level. Maura Wygmans stated that this design was
315 created by Tom Hengelsberg with input from Hugh Lewis Jr as well and the plan is to install it
316 on one of the lowest points along Lake Rd so that the amount of ramp that is needed to be in
317 compliance is minimized. This lowest spot is still 3.5 to 4 feet above the beach level which

318 equates to 40 feet of needed ramp. The original design that was done is a metal ramp. It would
319 have a 30 ft section and then would need a flat section and then another 10 feet of ramp to be
320 compliant. The plan as of now suggested by the Dock Doctor calls for a 10' by 10' concrete
321 block to be put on the beach as an anchoring system that would prevent the ramp from tipping
322 over. Another way to avoid this need would be to widen the platform which would provide more
323 stability to it. She went on to state that she believes this design it's still within the original
324 permit design. The cost to build this ramp currently is estimated by Dock Doctors to be \$33,000.
325 The initial installation cost from SJW Docks is \$3,750 with a yearly cost of \$2,300. Storing of
326 the dock is uncertain but an option is to store it in the parking lot during the off season.
327 J.D. Herlihy received clarification from Maura Wygmans that this dock is for access to the
328 beach, it doesn't go into the water. It will be for handicapped, those with strollers and folks with
329 floats, boats and kayaks could use the ramp as well.

330 Maura Wygmans stated that since the initial design that Tom Henglesberg created the costs of
331 the installation and removal of the ramp was revealed and Tom came up with a possible
332 approach of combining this work with a contractor named Earth Work that will be doing work
333 for the Charlotte Trails Committee on their project. In this case the ramp would potentially be a
334 concrete ramp. Further research is needed regarding this plan in regard to pricing and possible
335 erosion. Tom Hengelsberg did the initial design and Dock Doctors approved the design. They
336 have priced this dock many times with different variations. Due to the fact that they haven't
337 given Dock Doctors the full go ahead with pricing this dock, Dock Doctors hasn't fully priced
338 everything out since a final decision hasn't been made regarding design.

339 Natalie Kanner received confirmation that this project would have to go out to bid.

340 Hugh Lewis Jr. stated that the work involves bringing in larger rocks followed by base material
341 and then finer material on top. The shale that is there right now is a softer rock and wouldn't
342 work for anchoring the ramp, it would need cement work there. The concrete block down on the
343 beach would be appropriate for safety and the beach stone will cover that up which will keep it
344 from being an eye sore. He went on to state that the estimate is \$4,000 for the paved
345 handicapped parking space that is to be roughly 13' by 20' and then another bump out that is
346 roughly 20' by 30'. There are only 2-3 weeks left before the pavers come and this needs to be
347 decided on. When a car parks there they will not be blocking those that want to access the ramp.

348 Maura Wygmans stated that the plan is to have a handicapped sign there and or a sign that says
349 loading and unloading only.

350 Charlie Russell stated that he wonders if this project requires an army core engineer permit to do
351 any of this work. To put concrete in there you need army core permission. He went on to state
352 that he likes the idea of Hugh Lewis Jr. rebuilding the wall that he put in there years ago when
353 there was flooding. Rebuilding the wall and incorporating a concrete ramp at the same time
354 would eliminate the ongoing expense. That would make it a road project along with a ramp.

355 J.D. Herlihy stated that he is in favor of going ahead with the handicapped parking lot portion of
356 this project since there is a need there for loading, unloading purposes and to discourage people
357 from skirting the beach use fee.

358 Nathaniel Bareham stated that the Selectboard did budget in \$10,000 for the ramp project as part
359 of the Repair and Improvement Fund.

360 Maura Wygmans stated that she wasn't aware that the parking space expense would be pulled
361 from the ramp funds. She read from information that she received from Mary Mead on this date
362 that says that there is a Repair and Improvement Fund that covers the entire town and there is a
363 note as of 1/7/25 that says the balance was \$73,663. Earmarked to date in that fund is \$44,563

364 for the Charlotte Senior Center roof, \$10,000 for beach stairs, \$6,200 for ice rink electrical and
365 \$6,000 for a recreation storage shed. Maura Wygmans went on to state that it is still unknown as
366 to where the ramp grant money that Nicole Conley got is. Also the money that is earmarked
367 doesn't go away at the end of the year if it's not used.

368 Lee Krohn stated that beach stairs and the ramp are all related to beach access and with the
369 timing issue regarding the paving in mind he is in favor of moving forward with the use of these
370 funds for the handicapped parking space.

371

372 **MOTION by Lee Krohn, seconded by J.D. Herlihy, to approve the use of the Repair and**
373 **Improvement fund monies allotted for beach stairs for the beach handicapped parking**
374 **space while Lake Road paving is happening. VOTE: 5 ayes, 0 nays; Motion Carried.**

375

376 **Charlotte Board of Sewage Disposal Commissioners:**

377 **Discussion of Annual Sewer Use Rates – Quarterly Administrative & Infrastructure Fee**

378

379 **MOTION by Lee Krohn, seconded by J.D. Herlihy, to table the Charlotte Board of Sewage**
380 **Disposal Commissioners Discussion of Annual Sewer Use Rates – Quarterly Administrative**
381 **& Infrastructure Fee until the next Selectboard meeting. VOTE: 5 ayes, 0 nays; Motion**
382 **Carried.**

383

384 **Discussion, and possible action, on renewing the Town's ChargePoint service agreement**

385 Nathaniel Bareham stated that ChargePoint has offered a 25% discount for the 3 year renewal
386 agreement. There should be conversation in the future to decide on an increase in the fee amount
387 for the use of this EV station to help offset the cost of this service fee.

388 Wolfger Schneider stated that he wonders if it's necessary to include the cloud part of the
389 services in the contract since there is already a 10% service charge.

390 Nathaniel Bareham stated that the cloud service part of the contract saves the town space on the
391 town website that would need to be used to collect data on how much energy usage has occurred
392 and it allows the town to charge for the billables for the EV station. It's the back end computer
393 network support that allows the town to use their website to monitor the EV charging station.

394 Wolfger Schneider stated that the fee should be raised by at least 5 cents per kilowatt hour.
395 Discussion was had regarding the expense of this EV station and whether breaking even is
396 actually happening.

397 Nathaniel Bareham stated that June 16, 2025, is the deadline for this 25% discount.

398 Further discussion was had regarding doing further research to reveal what the expense is of
399 running this EV station and what the gains are and how to bridge any gap that is there.

400 Lee Krohn stated that a fee change can be assessed and implemented at a later time but there is a
401 deadline to this 25% off offer.

402 Nathaniel Bareham stated that he will do some further research on the appropriate amount to
403 increase the fee for the use of the EV station to and will consult with Wolfger Schneider on this
404 and make a recommendation to the board at a future Selectboard meeting.

405

406 **MOTION by Natalie Kanner, seconded by Lewis Mudge, to approve the renewal of the**
407 **ChargePoint Commercial Cloud Plan and Assure Maintenance and Management Plan, as**
408 **presented. VOTE: 5 ayes, 0 nays; Motion Carried.**

409

410 **Discussion of Personnel – Executive session likely per 1 V.S.A. § 313(a)(3)**

411

412 **MOTION by Natalie Kanner, seconded by Lewis Mudge, to enter into executive session to**
413 **discuss the possible appointment of an Assistant Recreation Director, and a Zoning**
414 **Administrator, per 1 V.S.A. § 313(a)(3). I further invite Nathaniel Bareham into this**
415 **session. VOTE: 4 ayes, 0 nays, 1 recusal (Tenney); Motion Carried.**

416

417 **MOTION by Lewis Mudge, seconded by Natalie Kanner, to exit out of executive session.**
418 **VOTE: 5 ayes, 0 nays; Motion Carried.**

419

420 J.D. Herlihy stated that the Selectboard took action during the executive session and that action
421 was the decision to authorize the Charlotte Town Administrator, Nathaniel Bareham to extend an
422 offer for the Assistant Recreation Director position.

423 Lee Krohn stated that Frank Tenney recused himself from this discussion and has also recused
424 himself from any voting.

425

426 **MOTION by J.D. Herlihy, seconded by Natalie Kanner, to authorize Nathaniel Bareham to**
427 **extend a conditional offer of employment to Pauline Tenney for the position of Assistant**
428 **Recreation Director at the Senior Center, at \$25 per hour, 19 hours per week with a start**
429 **date of July 1, 2025. VOTE: 4 ayes, 0 nays, 1 recusal (Tenney); Motion Carried.**

430

431 Discussion was had regarding the hiring committee for the new Recreation Director. Natalie
432 Kanner and Frank Tenney will both be on this hiring committee. The interviews will take place
433 next week.

434

435 **Discussion of Town Contract(s) – Executive session likely per 1 V.S.A. § 313(a)(1)(A)**

436

437 **MOTION by J.D. Herlihy, seconded by Natalie Kanner, to find that premature general**
438 **public knowledge of these discussions on an existing Town contract would clearly place the**
439 **public body at a substantial disadvantage. VOTE: 5 ayes, 0 nays; Motion Carried.**

440

441 **MOTION by J.D. Herlihy, seconded by Natalie Kanner, to enter into executive session for**
442 **the discussion of a Town contract per 1 V.S.A. § 313(a)(1)(A). I further invite Nathaniel**
443 **Bareham into this session. VOTE: 5 ayes, 0 nays; Motion Carried.**

444

445 **MOTION by Lewis Mudge, seconded by Frank Tenney, to exit out of executive session.**
446 **VOTE: 5 ayes, 0 nays; Motion Carried.**

447

448 Lee Krohn stated that no action was taken.

449

450 **Signing of Warrants**

451 Warrants were signed.

452

453 **Adjournment**

454

455 **MOTION by Lewis Mudge, seconded by Lee Krohn, to adjourn. VOTE: 5 ayes, 0 nays;**

456 **Motion Carried.**

457

458 The meeting was adjourned at 9:53 p.m.

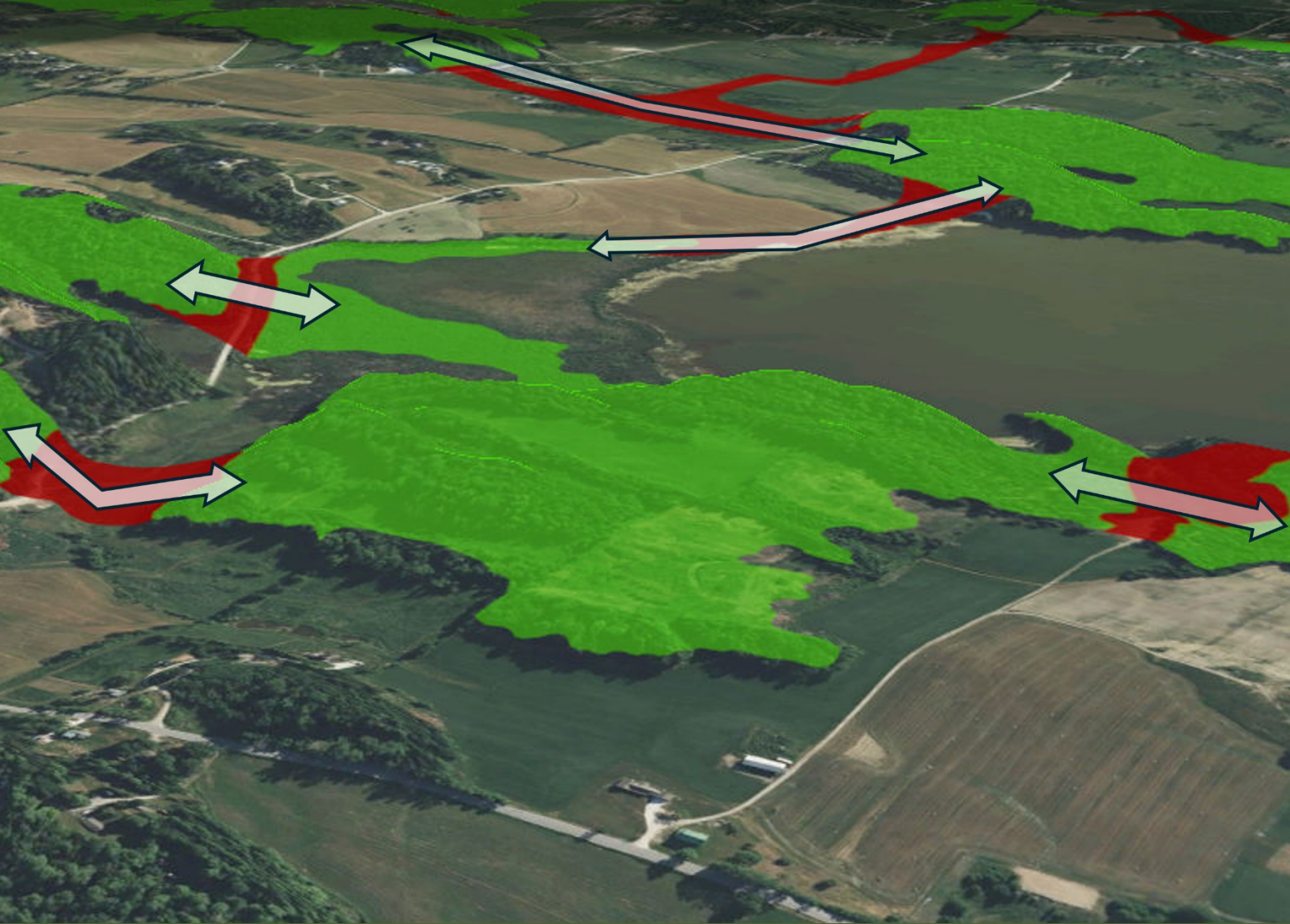
459

460 Minutes respectfully submitted by Brooke Milo, Minute Taker.

461 Edits by Nathaniel Bareham.

DRAFT

Charlotte Conservation Commission Significant Wildlife Habitat Map Update



May 30, 2025



ARROWWOOD ENVIRONMENTAL

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Scope of Work

The Charlotte Conservation Commission (CCC) has released a Request for Proposals for a comprehensive update to their Significant Wildlife Habitat Map (SWHM) first developed in 2000 and significantly updated in 2008. The CCC intends for the results of this project to support Charlotte's Town Plan updates, and to assist with meeting the Act 171 statutory guidance. Vermont's Act 171 mandated that towns identify priority forest blocks and habitat connectors (also called corridors, or linkage habitat) between the blocks in their Town Plans- this project will carry out a local-focused, town-scale analysis of forested land in Charlotte consistent with the directives in Act 171 and provide information and maps that identify forest habitats and wildlife corridors to further the Town's planning goals.

Arrowwood Environmental (AE) presents the following proposal which includes the identification, inventory and assessment of significant wildlife habitat and linkage habitat in the town of Charlotte, Vermont. AE will work with CCC to establish the fundamental parameters that define important wildlife habitat of "High Public Value" in Charlotte while also meeting the requirements laid out in Act 171. Using advanced spatial modeling tools and principals of conservation biology, AE will identify and quantify likely high-value wildlife linkage habitat, or corridors, as they currently exist between the blocks of important wildlife habitat. Through both remote and field-based assessments, these blocks of habitat, and the corridors between them, will be evaluated on specific ecological and biological criteria to determine their significance and relative importance to maintaining and enhancing the natural heritage of the town. AE will provide a summary report of methodology and findings as well as mapping tools to illustrate where habitat blocks and potential high-value connections exist throughout the Charlotte landscape.

AE is initially proposing a defined set of tasks based on similar projects conducted for other Vermont communities. However, recognizing that each community's ecological landscape and planning goals are unique, and that a budgetary framework for this project has not been established, we are available to work with the CCC early in the project to refine or adjust project scope or tasks to best fit Charlotte's needs.

Task 1. Wildlife Habitat Analysis and Assessment

The Town of Charlotte's current SWHM, finalized in 2008, includes 124 forest habitat blocks ranging in size from less than $\frac{1}{4}$ acre to over 800 acres and totaling over 8300 acres. In addition, the 2008 SWHM includes an additional 5400 acres of aquatic habitat (not counting Lake Champlain) and 336 acres of persistent shrubland habitat. This significant habitat assessment was at the forefront of such habitat evaluations in the State of Vermont when it was conducted, and it has successfully been used as a baseline from which to review development proposals and prioritize conservation in Charlotte's planning and regulatory review process.

However, the tools and methods available today, nearly 20 years later, have improved enough, and the landscape has undergone changes such that a reevaluation is warranted. In addition, those early concepts have now been defined and solidified in the statewide planning statute, Act 171. For this Task, AE will bring to the table modern approaches and technology, current high-resolution remote sensing, and a wealth of experience doing similar work for neighboring towns to improve and enhance the tools available to the CCC for their review and planning going forward.

Task 1a: Habitat Map Generation

AE has developed a standardized GIS-based methodology for identifying and delineating forest block boundaries from remotely detected landscape conditions and geometric refinement based on principles of conservation biology. These processes are designed to adhere closely to the definitions laid out in the Act



171 statute, while bringing a high level of detail, temporal accuracy, and local consideration. AE will confer with the CCC on the defining parameters and develop the model details to be consistent with Charlotte's needs.

Similarly, AE has a strong record employing modern wildlife corridor modeling approaches to town-wide assessments of preferred and potential wildlife movement areas. Using the forest blocks as "source" and "destination" areas, the interstitial landscape will be evaluated to determine the best and most appropriate linkage/connecting habitat, or corridors. The corridors will be based on, and tested against, actual scientifically derived knowledge about wildlife movement patterns and preferences in the Champlain Valley of Vermont.

In the previous iteration of Charlotte's SWHM, the additional habitat types of persistent shrubland, and aquatic habitat were identified. Shrubland, while biologically important, is rarely naturally "persistent" in Vermont, outside of shrub-dominated wetland communities. Shrublands, including these wetland communities, are identified as a component within our forest block mapping approach, as they are included in the forest block definition set forth in Act 171. If maintenance of a separate dataset remains important to the CCC, we can easily provide this information in our deliverables. Aquatic habitat often has less overlap with the forest block definition, especially in valley bottom land with an extensive agricultural history such as much of Charlotte. However, aquatic habitats- open water, riparian systems, and wetlands, are typically a primary consideration in the development of habitat corridors or linkages will be mapped as a component of that process. If selected, AE will discuss options and approaches for aquatic habitat mapping with the CCC and will incorporate their mapping and assessment into the final products as best determined.

The habitat assessment work will not be confined to Charlotte's borders. Wildlife do not know political boundaries and their habitats do not stop at town lines. We typically map a minimum of one kilometer beyond the town boundary. In the case of Charlotte, we have recently worked on a similar project with the bordering towns of Shelburne and Monkton, so this information will be incorporated for a seamless habitat picture across the region.

Task 1b: Forest Change Analysis

AE will conduct a change analysis comparing the 2008 SWHA mapping, and our new updated forest habitat block and corridor mapping. The approaches, and more significantly the availability of high-resolution remote sensing, will no doubt result in some significant differences. But there have also been landscape changes in Charlotte over the past 20+ years, and our assessment will identify major changes to the significant habitat across Charlotte.

Task 1c: Habitat Assessment

AE has developed a process for evaluating and summarizing significant habitat elements that make up each forest block. The parameters employed in this process are highly specialized and customized based on the landscape and known natural history of the town being evaluated.

Previous work has assumed that this assessment could be used as a ranking method for identifying the "best" forest blocks, or those most worthy of regulatory protection. However, our experience on this front has led us away from recommending this approach. While the assessment provides valuable insight into the makeup of each block, and what it might uniquely support or encourage, we find it fails as a method of directly comparing one block to another. Unique and diverse habitat conditions are incredibly important to wildlife, especially in fragmented settings such as Charlotte and much of the Champlain valley. While multiple large high-valued components in a single block often make for desirable and highly functional habitat, the presence of only a single or smaller component cannot be assumed to confer less value.



We propose conducting an assessment of the habitat blocks based on a suite of locally-relevant biological parameters to better inform the CCC and citizens of Charlotte about each individual block but discourage its use as a comparative ranking method.

Task 1d: Field Assessment

Following preliminary modeling and mapping of forest blocks and wildlife corridors, AE biologists will conduct “windshield surveys” from public access points throughout Charlotte. This effort will be targeted at visually confirming forest conditions and land-use patterns and making appropriate adjustments to the preliminary mapping. Areas of note or suggested changes will be recorded with GPS equipped field mapping devices, and changes will become auxiliary inputs to the forest block and corridor modeling and mapping process.

As budget, property access, and project timeline allows, AE will conduct site-based field assessments to evaluate and refine the mapping of forest blocks and habitat corridors. This work is very time-consuming, so the amount of work will depend on the availability of funding. Field assessments on private property also require the cooperation of landowners, something that is often difficult to procure in an efficient manner. We suggest a discussion during a kick-off meeting such that we might better understand the CCC’s interests and goals and tailor an approach to field assessment that best suits the project requirements. In any case, we assume the CCC will be available to procure landowner permission to any sites targeted for further field-based assessment.

There is also a considerable amount of citizen science data available for our review, including no small amount from the CCC itself, but also from amateur and professional naturalists, biologists, and land managers. Incorporating this information into our analysis and assessment will provide significant added value.

Our proposed budget includes a placeholder amount for field-assessments, with the assumption that further discussions will take place based on goals and available budget to better refine this task.

Task 2. Data Integration/Public Mapping Tools

AE routinely works with CCRPC to provide mapping deliverables for their use in town mapping tools, apps, and initiatives. We look forward to providing our data in a format that is compatible and consistent with CCRPC’s and CCC’s needs. We always provide all the derived GIS data, fully ascribed and attributed, for our town projects for use in whatever manner the CCC and Town of Charlotte deem appropriate.

AE will also provide our own project-specific web mapping application that displays the data deliverables. This may be used on its own or in conjunction with a mapping tool built by CCRPC.

For the purposes of budgeting, we’ll assume that CCRPC will develop a web map meeting the CCC’s specific needs, but we are certainly available and skilled at customizing our mapping tool to fit any unique requirements should it be helpful.

Task 3. Reporting

AE will provide a summary report detailing approaches, methods, and findings for all tasks in this proposal. The deliverables will include an electronic copy of the report, all derived GIS data products, a web-mapping application displaying the project results, and ongoing access to all deliverables through AE’s website portal.



Project Schedule

This is a preliminary schedule based on limited field assessment as discussed above. If significantly more field assessment is possible within the project budget and landowner access permission, we will discuss schedule modifications to best accommodate this.

	2025							2026			
	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April
<i>Consultant Contract, Kick-off</i>											
<i>Habitat Modeling & Mapping</i>											
<i>Corridor Modeling</i>											
<i>Habitat Assessment</i>											
<i>Field Assessments</i>											
<i>Web Mapping & Reporting</i>											

Business and Management Structure

Established in 2001, AE is a Vermont-based consulting company owned by four scientists, with one staff ecologist, all with extensive experience conducting natural resource assessments throughout the State of Vermont. The company is 25% woman owned. The company was founded on a shared desire to assist private and public entities in Vermont to evaluate natural resources as well as to identify and protect areas of natural significance. AE utilizes GIS systems extensively in our work for analysis, documentation, modeling and presentation of scientific data, site conditions, landscape elements and predicted features. Technical expertise in GIS, CAD, site design, aerial and aquatic drone operation, remote analysis, cartography, and database design are employed in support of scientific backgrounds in wetland ecology, wildlife biology, botany, and surface water hydrology.

Aaron Worthley will serve as the overall Project Manager and will ensure effective communication and coordination between AE’s team and the Charlotte Point of Contact. Aaron will oversee each project task and ensure sound data collection and analysis, and high-quality and timely deliverables.

All AE personnel routinely participate in discussion, brainstorming, field assessments, and scientific application for projects such as this.

Arrowwood Environmental Point of Contact:
Aaron Worthley, 950 Bert White Road, Huntington Vt. 05462
802.434.7276 x4 aaron@arrowwoodvt.com



Key Personnel

Below are brief professional biographies of the AE team personnel.

Aaron Worthley: Principal GIS Analyst, Ecologist. Aaron is the principal GIS Analyst for AE responsible for project mapping, GIS and CAD plan development, spatial analysis, database management, remote sensing, and predictive modeling. Aaron also conducts field inventories and assessments for wildlife tracks & sign, and multi-species habitat assessments. Aaron has led AE's recent forest block and wildlife corridor assessments for the towns of Shelburne and South Burlington. Accomplishments include extensive map, management planning and visual aid development for municipalities, organizations, businesses and private landowners, court exhibits, public presentation and project planning, community tree inventories, wildlife and bird inventories, qualitative habitat assessment, and ecological predictive modeling. Aaron chaired the Huntington Conservation Commission for ten years and is now leading the Stewardship Committee for Huntington's Community Forest.



Eric Hagen: Staff Ecologist. Eric is a staff ecologist for AE and graduate of UVM's Field Naturalist Master's Program. His responsibilities at AE include wetland delineations, functional assessments and permitting; wetland restoration design, implementation, and monitoring; wildlife habitat evaluations and analysis; natural community mapping; stream geomorphic assessments; water quality monitoring; invasive species inventories; and plant surveys. Mr. Hagen is also responsible for technical writing, spatial data analysis, wildlife corridor mapping, and conservation planning assessments. Eric was a co-author of the 2024 Vermont Wetland Restoration Manual.



Jeff Parsons: Wildlife Biologist/Wetland Ecologist. Jeff is the principal Wildlife Biologist for AE with experience spanning more than 35 years. He specializes in wildlife studies including single-species and habitat assessments, wildlife impact assessments, field inventories, wildlife tracking and sign assessments, and grassland and high-elevation avian assessments. Jeff conducts wetland delineations, function and value assessments, impact assessments, reclassifications, and mitigative and restoration plans and implementation. Accomplishments also include lake, pond and reservoir ecology and management plans, interpretive trail development, and recreational impacts on wildlife, community natural resource planning and environmental permitting.



Michael Lew-Smith: Botanist/Wetland Ecologist. Michael is the principal Botanist for AE with experience spanning more than 25 years. He has extensive and varied experience working closely with Natural Heritage Programs, Vermont DEC, The Nature Conservancy, towns, companies, private individuals, and organizations. Michael's areas of expertise include botanical inventories, wetland delineations, wildlife habitat assessments, and ecological restorations. He also has extensive experience mapping and assessing natural communities for private organizations and public land managers of towns, state forests and National Parks. He is one of the founders of the Vermont Vernal Pool Mapping project, which mapped and assessed vernal pools statewide. Michael has been trained in the identification and ecology of freshwater mussels, reptiles and amphibians and regularly conducts work in these fields.





Dori Barton: Wetland Ecologist/Permit Specialist/Project Manager. Dori has been an environmental consultant for more than 25 years, working with public and private entities. Her areas of expertise include wetland delineations, wetland functional assessments and permitting, wetland restoration plan design, implementation, and monitoring; stream geomorphic assessments and bridge and culvert assessments; wildlife habitat evaluations; hydrologic investigations; and erosion prevention and sediment control plan design. Dori was a co-author of the Vermont Wetland Restoration Manual. Dori currently serves as Chair of the Huntington Selectboard, a board on which she has served for 15 years. Prior to that, Dori served on the Huntington Planning Commission for a period of 10 years.



Project Budget

Costs are calculated at a rate of \$95/hour. This is discounted from the standard \$105/hour rate. This is a conceptual budget and we assume details and specifics will be worked out to best suit the project goals when available funding is better understood.

	Hours	Cost
<i>Task 1. Habitat Analysis and Assessment</i>		
(1a) Forest Block Modeling & Mapping	40	\$3,800.00
(1a) Wildlife Corridor Modeling	30	\$2,850.00
(1b) Forest Change Analysis	12	\$1,140.00
(1c) Habitat Assessment	28	\$2,660.00
Subtotal:	110	\$10,450.00
<i>Task 1d. Field Assessments</i>		
Windshield Surveys	32	\$3,040.00
Site-based Field Assessments (placeholder- actual TBD)	80	\$7,600.00
Subtotal:	32	\$10,640.00
<i>Task 2. Data Integration/Mapping Tools</i>		
Coordination with CCRPC/Data transfer	4	\$380.00
Subtotal	4	\$380.00
<i>Task 4. Reporting & Deliverables</i>		
Reporting	35	\$3,325.00
Mapping Application	8	\$760.00
Methodology Documentation	8	\$760.00
General Project Administration	4	\$380.00
Subtotal:	55	\$5,225.00
Mileage @\$0.70	250 mi	\$175.00
Total Project Budget		\$26,870.00



Reference Projects and References

Note: Reports and data produced for all of AE’s past municipal natural resource inventory projects are available publicly online for viewing and downloading. To access, please visit www.arrowwoodvt.com and click on the “Documents” link in the footer of any page. From there, navigate to the folder titled “Town Natural Resource Inventories”. The deliverables for the projects listed below, and many others, are all available.

PROJECT 1: Town of Shelburne- Forest Blocks and Critical Wildlife Corridors

Project: Forest Block Mapping & Regulatory Planning

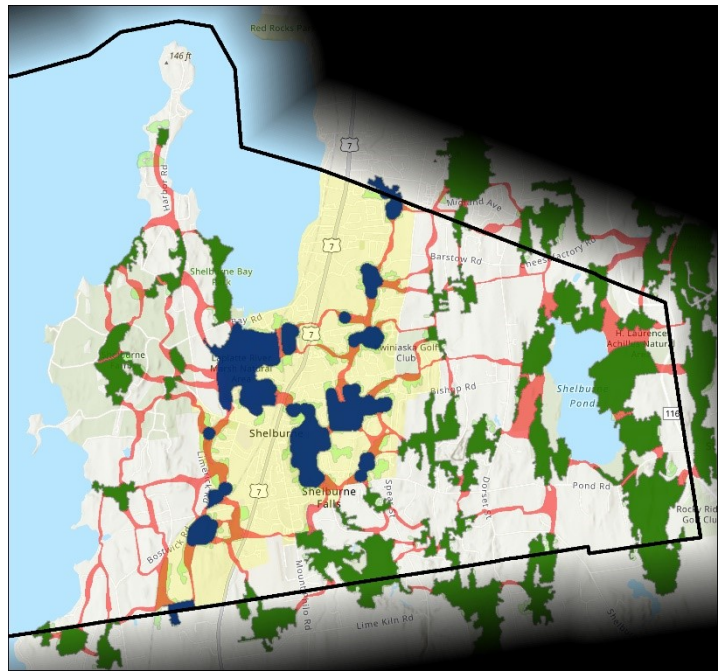
<https://arrowwoodvt.com/shelburne>

Date: 2023-2025 *Contact Name:* Aaron DeNamur

Email: adenamur@shelburnevt.org

AE conducted an initial forest block mapping and assessment project for the Shelburne Conservation Commission, wrapping up in 2023. This project utilized locally-specific parameters and spatial modeling tools to conduct an inventory and analysis of forested wildlife habitat within the town for use as an aid in prioritizing regulatory and conservation measures. AE conducted a “Habitat Block” assessment consistent with the directives laid out in Vermont’s Act 171. The assessment focuses on forested areas and, like a similar analysis conducted in adjoining South Burlington, extends to supporting habitat beyond the forest edge that provides important and/or critical habitat requirements to the species utilizing the forest. AE developed a methodology to delineate and rank Habitat Blocks in 2020 for the City of South Burlington, and this current assessment utilized many of the same concepts and inputs, although specific parameters, scores and relative weightings were all considered fresh within the context of Shelburne’s landscape setting, development patterns, and wildlife populations. The relative ranking of important habitat areas provides the Town of Shelburne with an important tool to assist with understanding and protecting wildlife habitat for a broad suite of species.

Subsequently, as the Shelburne Planning Commission was grappling with updating their land use regulations and the Town of Shelburne retained AE to refine the mapping for regulatory use, and identify critical forest block areas and connecting corridors, particularly within the Shelburne Sewer Service Area (SSA) where





development is prioritized, and land use limitations are required to be more clearly articulated. The intent of this effort was to recommend forest block boundaries for Shelburne’s regulatory environment that balance the value of forest habitat with the need for housing, infrastructure, and other human development.

PROJECT 2: City of South Burlington Habitat Block Assessment & Ranking

Project: Assessment and Ranking of Wildlife Habitat Blocks in South Burlington, Vermont

Date: 2020

Contact Name: Paul Conner, Director of Planning & Zoning City of South Burlington

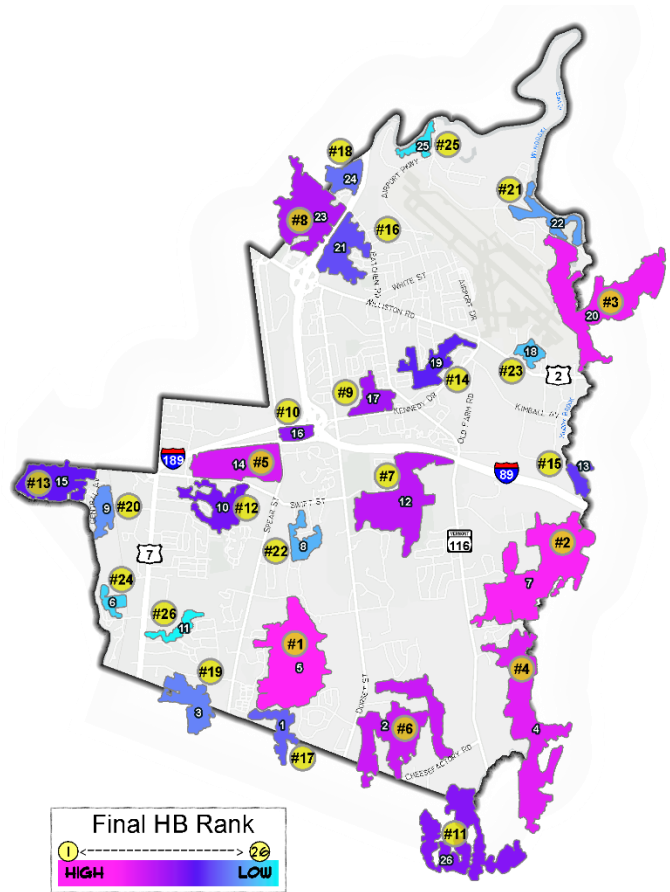
Email: pconner@s Burl.com *Phone:* (802) 846-4106

In 2020, AE completed the first of its kind “forest blocks” analysis for the City of South Burlington (SB) Planning Department for use as an aid in prioritizing regulatory and conservation measures. This project was the first town-scale effort at mapping forest blocks following the passage of Vermont’s Act 171.

AE developed a methodology to delineate and rank Habitat Blocks throughout the city. AE went on to develop a scoring and ranking methodology aimed at prioritizing the defined habitat blocks for their conservation value. The relative ranking of important habitat areas can provide the SB Planning Department with a valuable tool in protecting wildlife habitat for a broad suite of species.

The City of South Burlington subsequently incorporated AE’s habitat block mapping into their comprehensive land use regulations with specific protections placed on some mapped forest habitats.

<https://arrowwoodvt.com/sbhb>



AARON WORTHLEY

PARTNER — GIS ANALYST — SCIENTIST — UAS PILOT



Areas of Expertise

- Geographic Information Systems
- UAS / Drone Mapping
- Cartography & Web Mapping Tools
- Wildlife Assessment & Monitoring
- GPS & Surveying
- Database Management
- Graphic Design & Layout

Education & Professional Training

- B.A. Individual Design (social sciences, performing arts), University of Vermont, 1994
- FAA Licensed UAV Pilot (2016)
- Wetland Ferns (2/2013)
- Phase II- VT Stream Geomorphic Protocols, summer (2007)
- Wetland plant Identification (2007)
- SGAT & Phase 1 VT Stream Geomorphic Protocols, (2004)
- Vernal Pool Identification & Certification, (2006)
- Winter Identification of Trees and Shrubs workshop (2003)
- Keeping Track- Wildlife Tracking & Monitoring (2001-2002)
- Forest Mycology (2003)
- Vermont Spatial Data Partnership, semi-annual GIS Roundtables

Mr. Worthley is the principal GIS Analyst for Arrowwood Environmental responsible for project mapping, GIS and CAD plan development, spatial data assessment, spatial database management, remote sensing, spatial, visual and hydrological modeling, and GPS surveying. Mr. Worthley also conducts field inventories and assessments for wildlife tracks, sign and wildlife, avian habitat assessments and wetland delineations. As a certified UAV (drone) pilot, Mr. Worthley conducts aerial surveys, mapping, and photography to support Arrowwood's projects and clients. Accomplishments include extensive map, plan, database, and visual aid development for municipalities, organizations, businesses and private landowners, court exhibits, public presentation and project planning; community tree inventory project development and implementation, wildlife and bird inventories, habitat assessment, ecological predictive modeling and mapping, and development of web-based mapping and communication tools.

Significant Projects & Experience

- Vermont Vernal Pool Mapping Project: Database and GIS manager for a statewide vernal pool mapping initiative.
- Audubon Vermont: Forest Bird Initiative. Field evaluations and forest management recommendations for enhancing forest bird habitat with participating landowners.
- Vermont Dept. Environmental Conservation RCPP Wetland Outreach: Database design, implementation and management, cartography, and geospatial modeling to identify and prioritize agricultural wetland restoration projects.
- Vermont Dept. Environmental Conservation, CCRPC: Fluvial Geomorphic Assessments & Fluvial Erosion Hazard mapping. Field assessments analysis and data development, erosion hazard mapping, software testing, technical support.
- Wildlife habitat spatial-modeling: A component of town-wide natural resource inventories to support management and planning decisions for wildlife habitat and corridor protection.
- Planning, and conducting aerial surveys: Mapping & photography using UAV (drone) technology in accordance with FAA regulations and ecological best-management practices.
- Wildlife monitoring and habitat assessments: Including- Wildlife track and sign documentation, remote camera deployment, live-trapping, baited track boards, aerial habitat surveys and grassland, forest & high-elevation avian field studies.



Areas of Expertise

- Wetland delineation
- Ecological restoration
- Forest block and habitat connectivity analysis
- Conservation planning for recreation
- Natural community mapping and assessment
- Wildlife habitat assessments
- Aquatic and terrestrial invasive species inventories
- Municipal conservation planning using Vermont Conservation Design
- Geographic Information Systems
- Community values assessments
- Technical writing for broad audiences

Education & Professional Training

- M.S., Field Naturalist Program, University of Vermont, 2020
- B.A., Biology, Williams College, 2014
- Track & Sign Level 2, CyberTracker, 2025
- Vermont Natural Shoreland Erosion Control Certification, 2025
- Botany Courses (2012, 2018)
- Geographic Information Systems Courses (2014, 2018)
- Statistics Courses (2011, 2019)

Mr. Hagen is a staff ecologist for Arrowwood Environmental. His responsibilities include wetland delineations, functional assessments and permitting; wetland restoration design, implementation and monitoring; wildlife habitat evaluations and analysis; natural community mapping; stream geomorphic assessments; water quality monitoring; invasive species inventories; and plant surveys. Mr. Hagen is also responsible for technical writing, spatial data analysis, wildlife corridor mapping, and conservation planning assessments.

Significant Projects & Experience

- Conservation Planning: Forest block and habitat connectivity analysis for the towns of Shelburne and Warren.
- Technical writing for broad audiences: Co-authored the Vermont Wetland Restoration Manual. Authored A Vermonter's Guide for Protecting Biodiversity.
- Wetland Delineation and Permitting: Delineation, assessment, and permitting of wetland resources throughout Vermont.
- Wetland Restoration: Design, management, and monitoring of the ecological restoration of the Chrystal Creek Watershed. Ditch removal, micro and macro topography treatment, non-native invasive species management, and revegetation.
- Ecological modeling and mapping: Landscape-scale wildlife habitat modeling across British Columbia.
- Bird Surveys: Call-playback surveys and Audio Recording Unit deployment in remote areas.
- Water Chestnut Inventory: Surveys for water chestnut by kayak in the marshes and tributaries of Lake Champlain.
- Invasive Species Management: Inventory, planning, and implementation in restoration sites, development sites, and natural areas in British Columbia and across Vermont.
- Project Management: Watershed restoration, invasive species management, and grant writing.
- Conservation planning for recreation: Wildlife habitat and sensitive ecosystem assessment for trail development in the Brushwood Community Forest in West Fairlee.
- Community values assessment: What do you love about this place? A study of relational values in residents of the Winooski watershed.
- Vegetation Inventory and natural community mapping: Andrews Community Forest in Richmond.

DORI BARTON

PARTNER — PROJECT MANAGER — WETLAND ECOLOGIST — HYDROLOGIST



Areas of Expertise

- Project Management
- Wetland Delineation and Assessment
- Stream Geomorphic Assessments
- Wetland Restoration Design and Implementation
- Wildlife Habitat Assessments
- Environmental Permitting and Expert Testimony

Education & Professional Training

- M.S., Watershed Science, Colorado State University, 1996
- B.A., Political Science and Environmental Studies, Dartmouth College, 1992
- Vt. Regulatory Review Planning for Endangered Bats (February 2017)
- Vermont Natural Shoreland Erosion Control Certification (2016, 2018, 2020, 2025)
- Vt. Stream Geomorphic Assessment Phase 2 Training (2003, 2005)
- Certified Professional in Erosion and Sediment Control; #2634 (2003)
- Erosion and Sediment Control Awareness Class (2003)
- Keeping Track Wildlife Training Course (2002-2003)
- Botany Courses (2001, 2013, 2015, 2019, 2024)
- Hydric Soils Courses (1998, 2001)
- Field Techniques for Soil Evaluation (1997)

Ms. Barton is a project manager and principal ecologist for Arrowwood Environmental. Her responsibilities include wetland delineations, wetland functional assessments and permitting, wetland restoration plan design, implementation and monitoring; stream geomorphic assessments, bridge and culvert assessments, and stream restoration plan design and implementation; wildlife habitat evaluations; hydrologic investigations; and erosion prevention and sediment control plan design. Ms. Barton is frequently called upon to provide expert testimony in Act 250, Act 248 and District Court for a wide range of projects and clients. Ms. Barton provides expert project management skills ensuring high quality work products completed in an efficient and timely manner. Ms. Barton is committed to giving back to her home community and serves as Chair of the Huntington Selectboard having been a member for fifteen years, and previously served on the Huntington Planning Commission for a period of ten years.

Significant Projects & Experience

- Wetland Reclassification: Provide technical support and detailed analysis to support Class I reclassification petition for the LaPlatte River Marsh Wetlands.
- Wetland and Stream Restoration: Conduct impact assessments, design, implement and monitor site specific restoration plans for voluntary and/or mandatory regulatory permit compliance. Co-author of Vermont Wetland Restoration Manual.
- RCPP Wetland Project Outreach and Development project: Project manager and principal wetland ecologist for Prioritization and development of 250 potential wetland restoration sites within the Lake Champlain Basin in Vermont.
- Renewable Energy: Project manager and principal ecologist working with project sponsors and engineers of small and large scale solar and wind projects to design layouts that avoid and protect significant natural resources.
- Ski Resort Development: Conduct field assessments and coordinate environmental permitting with State and Federal agencies including Vt. Wetlands Program, US ACOE, and Vt. Stream Alteration Program.
- Vt. Dept. of Environmental Conservation: Conduct fluvial geomorphic assessments and prepare River Corridor Plans.

JEFF PARSONS

PARTNER — WILDLIFE BIOLOGIST — WETLAND ECOLOGIST



Areas of Expertise

- Hydric Soils & Wetland Delineation
- Wetland Function & Value Assessment
- Wildlife & Wildlife Habitat Assessments
- Subarctic, Boreal & Alpine Ecology
- Recreational Impacts on Wildlife
- Lake & Reservoir Ecology and Management
- Pesticide Impact Assessment
- Conservation Biology
- Geographic Information Systems

Education & Professional Training

- M.S. Natural Resources Planning, University of Vermont, 1992
- B.S. Zoological – Anthropology: University of Michigan, 1985
- Wildlife Biology: Michigan State University, 1977-1982
- Vermont Natural Shoreline Erosion Control Certification, 2016
- Wetland Ferns, 2013
- Aquatic Plants of Vermont, 2002
- Sedges of Vermont, 1998
- Lichens of Vermont, 2008
- Mosses of the Northeast, 2007
- Cryogenic Soils Field Conference, Mt Washington, NH, 1990

Mr. Parsons is the principle Wildlife Biologist for Arrowwood Environmental responsible for a wide variety of wildlife studies including: single-species and habitat assessments, wildlife impact assessments, field inventories, wildlife tracking and sign assessments, and grassland and high-elevation avian assessments. Mr. Parsons also conducts wetland delineations, function and value assessments, impact assessments, reclassifications, and mitigative and restoration plans and implementation. Accomplishments also include lake, pond and reservoir ecology and management plans, interpretive trail development, and recreational impacts on wildlife, community natural resource planning and environmental permitting.

Significant Projects & Experience

- Instructor: Vermont Law School: 1997-2003.
 - University of Vermont: 1993-1998.
 - Northern Vermont University: 1994-98, 2016-18.
 - Sterling College: 1992-2017.
- Vermont Pesticide Advisory Council: Health and Environment Representative 1991-2000.
- Interim Vermont Recreation Planner: Vermont Recreation Plan Wetlands Component and summary documents 1988
- Lecturer and Field Leader: Wetland Ecology for Federal District Court Judges (Vermont Law School).
- Black Bear Habitat Assessments: Smugglers' Notch Resort, Stowe Mountain Resort, Jay Peak Resort, Sugarbush Resort, Bromley Mountain.
- Bicknell's Thrush Habitat and Species Monitoring: Smugglers' Notch Resort, Jay Peak Resort, and Sugarbush Resort.
- Primary Ecologist and Project Coordinator: Lake and Pond Assessment and Management for Woodbury, Vt.
- Vermont's Golf Course Pesticide Risk Assessment: Author of Protocol addressing pesticide toxicity, half-life, and chemical mobility.
- Ecologist and Wildlife Biologist: Middlebury Gap and Smugglers' Notch Scenic Highway Management Plan.
- Ecologist and Wildlife Biologist: Inventory and management guidance for natural areas wetlands, and wildlife within the cities of Burlington and South Burlington.
- Lead Investigator: Inventory & Prioritization of wetlands for acquisition by the State of Vermont.

MICHAEL LEW-SMITH

PARTNER — ECOLOGIST — BOTANIST



Areas of Expertise

- Rare, Threatened and Endangered Plant Inventories
- Aquatic Plant Inventories
- Wetland Delineation
- Natural Community Mapping and Assessment
- Freshwater Mussel Inventories
- Vernal Pool Mapping and Assessment
- Invasive Species Mapping and Management
- Herpetological Studies
- Rare Plant Transplantation and Monitoring

Education & Professional Training

- M.S., University of Minnesota Department of Plant Biology, 1997
- B.S., University of Michigan School of Natural Resources. Natural Resource Management, 1991
- Freshwater Mussel Identification and Ecology, USFWS Training Center, Shepardsdown, WV, 2016
- Reptiles and Amphibians of Vermont, Hogback Community College Vt. Family Forests. Bristol VT, 2011
- Boreal Flora, University of Michigan Biological Station, 1995
- Bryophytes, University of Michigan Biological Station, 1995

Mr. Lew-Smith is an ecologist and principal botanist for Arrowwood Environmental. He has worked closely with conservation organizations, agencies, municipalities, companies, and private individuals on natural resource identification, assessment and management. Mr. Lew-Smith conducts botanical inventories, wetland delineations, wildlife habitat assessments, and ecological restorations. He also has considerable experience mapping and assessing natural communities for private organizations and public land managers and is currently working on an aquatic natural community classification system. Mr. Lew-Smith regularly conducts inventories of aquatic invasive species and rare aquatic plants and works closely with lake associations on aquatic vegetation management plans. Mr. Lew-Smith has also worked throughout Lake Champlain mapping and controlling aquatic invasive species. He is one of the founders of the Vermont Vernal Pool Mapping project, which mapped and assessed vernal pools statewide.

Significant Projects & Experience

- Aquatic Species Mapping and Assessment: Map native and non-native aquatic plants in lakes throughout Vermont and develop plans for the management of aquatic nuisance species.
- Freshwater mussel inventories: Conduct inventories for freshwater mussels throughout Vermont.
- Northern Pass: Project Manager and ecologist working for the NH Attorney General's office on providing an independent review of the environmental assessment of the proposed Northern Pass transmission line.
- Wetland Reclassification: Provide technical support and detailed analysis to support Class I reclassification petition for the LaPlatte River Marsh Wetlands.
- Renewable Energy: Project manager and principal ecologist working with project sponsors and engineers of small and large scale solar projects to design layouts that avoid and protect significant natural resources.
- Member of the Floral Advisory Group: Advising the Vermont Endangered Species Committee on matters related to Vermont's Rare, Threatened and Endangered Plants.
- Vernal Pool Mapping: Co-founder of the Vermont Vernal Pool Mapping Project. Developed a vernal pool mapping methodology and a statewide Vernal Pool map and database.



Proposal and Estimate:
Town of Charlotte Significant Wildlife Habitat Map Update

I am pleased to submit this proposal to the Charlotte Conservation Commission (CCC) to update the Charlotte Significant Wildlife Habitat Map (SWHM), along with its supporting inventory and databases. This project will modernize the 2008 SWHM by:

- **Updating the map and underlying data** to reflect current ecological conditions.
- **Revising the methodology** to incorporate the best available science and data.
- **Enhancing data storage and accessibility**, including integration into a modern GIS platform.

Between 2005 and 2010, I collaborated with Matthew Kolan, John Austin, Jens Hilke (VTDFW), Marty Illick (LCA), and the CCC to develop and implement the original 2008 SWHM. This process included co-authoring the technical methods (Mohr and Kolan, 2009) and the site review protocol used to assess development impacts on significant habitats. The 2008 SWHM identified significant wildlife habitat based on seven ecological principles for conserving habitat in developing areas (Duerkson et al., 1997; Thompson, 2002). These principles, along with the ancillary datasets and studies developed or utilized to identify significant habitat, are summarized in Table 1.

Today, I propose using a similar methodological framework to update the SWHM: evaluating and identifying significant habitat based on well-established principles and best practices for conserving habitat in developing landscapes, supported by the best available data. I recommend forming a working group with the CCC, VTDFW, and other stakeholders. This group will help revise the 2008 methods to incorporate recent advances in conservation science, address emerging threats and stressors, and integrate tools such as the Vermont Conservation Design (Sorenson and Zaino, 2018) and other updated VTDFW planning resources, including Conserving Vermont's Natural Heritage (Austin et al., 2013). The updated SWHM and methods should align with VCD's data, scientific framework, and terminology. Because both VCD and VTDFW's planning guides are grounded in best practices for biodiversity conservation, they align closely with the 2008 SWHM methods.

At the core of the SWHM update process, I propose conducting a suite of remote and site assessments to document the extent and current condition of Charlotte's significant wildlife habitats. These assessments will inform updates to the SWHM, its underlying database, and the refinement or replacement of numerous ancillary data layers (see Table 1). The habitats and species described in the 2008 SWHM and database are based on observations that are now over 20 years old.

For the 2025 update, I propose that initial assessments focus on identifying and evaluating:

- Previously unvisited properties with likely significant habitats
- Significant habitats impacted by recent land use changes or disturbances
- Properties not assessed in over 25 years
- Town-owned lands
- Properties located within VCD-designated highest-priority interior and connectivity blocks
- Highly dynamic habitats such as river corridors, riparian areas, floodplains, and shrublands
- Highly vulnerable habitats such as road crossings, significant natural communities, and rare species locations
- Properties with additional conservation priorities identified in the Wildlife Action Plan (Kart et al., 2005), Conserving Vermont's Natural Heritage (Austin et al., 2013), and the Vermont Conservation Design (Sorenson and Zaino, 2018).

As part of this process, I propose working closely with the CCC and the project working group to refine and finalize the list of assessment priorities.

Based on experience using the 2008 SWHM to evaluate development and conservation projects—and incorporating feedback received over time—I propose making more of the ancillary data available through the SWHM online mapper, a capability that was not technologically feasible in



2008. The original SWHM includes four GIS data layers: significant forest, aquatic, shrubland, and linkage habitats. Each of these layers represents a synthesis of multiple ancillary inventories, studies, and datasets used to identify and verify significant habitat (see Table 1). One of the key improvements I propose is to make more of these ancillary data layers directly accessible within the online mapper. Previously, this information was only available in descriptive form within the database reports (see Figure 1). Including these datasets as additional map layers will enhance transparency in habitat determinations and provide users with more detailed, location-specific information to help avoid, minimize, or mitigate potential impacts. While not all ancillary data can be shared online, I will work with the CCC and the project working group to determine which layers should be included and what level of detail is appropriate for public access.

As part of this update, I propose integrating the SWHM data and MS Access database reports into a single, modern ArcGIS database to improve accessibility, archiving, and future editing. Currently, the SWHM is maintained in three separate components (see Figure 1):

- a map with four GIS data layers (forest, aquatic, shrubland, and linkage habitats)
- MS Access database containing reports for individual significant habitat patches
- Library of site-specific, town-wide, and regional studies and reports

Both the GIS and MS Access files are based on formats from 2006 or earlier, which limit their functionality and capacity compared to current technologies. A modern GIS database can consolidate and store the detailed information currently housed in the MS Access database, streamlining data management and enhancing usability.

The full proposal includes a scope of work, budget, and timeline for completing each phase.

This proposal is organized into three phases:

- **Phase 1: Inventories and Assessments.** This phase entails refining the existing methodology in collaboration with the CCC and working group, followed by conducting remote and field-based inventories and assessments to inform the update.
- **Phase 2: Significant Wildlife Habitat Map Update.** During this phase, significant habitats will be identified and verified using updated methods and data. Updates to the SWHM and its underlying database will be completed by the end of this phase.
- **Phase 3: Outreach.** The final phase emphasizes public engagement and SWHM deployment. This includes launching the updated SWHM online mapper, providing training on its usage, and hosting a public presentation to introduce the updated tools and findings.

The full proposal includes a scope of work, budget, and timeline for completing each phase.

I, Jesse Mohr of NG, will be providing all the services outlined in this scope of work. The proposal includes qualifications, references, and a summary of my work samples. Additionally, my resume is attached to this proposal. If you have any questions or wish to discuss possible revisions to the scope of work, budget, or timeline, please do not hesitate to contact me.

Jesse Mohr,
Certified Wildlife Biologist ®/Certified Forester ®
Licensed NH and VT Forester
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Fairlee, VT 05045
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Table 1: 2008 SWHM Principles and Data - Land recognized as significant habitat in 2008 met one or more criteria based on seven ecological principles for conserving habitat in developing areas. The principles, along with the supporting ancillary data and studies utilized in their assessment, are detailed below.

	Principle	2006 Ancillary Data
Core Habitat	Maintain large, intact patches of native vegetation	VBP Core Habitat 2006 Charlotte Forest Cover*
Priority Species Habitat	Protect habitats key to distribution and abundance of priority species (based on the 2005 Vermont Wildlife Action Plan)	VTDFW Mast Areas NHD Lake Champlain Tributaries 1999 Charlotte Critical Habitat Map and Data Charlotte Mast Stands* >1,000-acre Forest Blocks* Vernal Pools* Cliffs and Talus Slopes* Lake\Pond Forested Riparian Areas** Stream\River Forested Riparian Areas** Persistent Early Successional Habitat** Outcrops** High Quality Shorelines** High Quality Shrub Swamps** High Quality Hardwood Swamps** High Quality Floodplain Forests**
Rare Landscape Features	Protect rare natural communities and aquatic features	VTDFW State Significant Natural Communities VBP Exemplary Aquatic Feature Significant Natural Communities of Charlotte*** Thorp and Lower Kimbal Brook Sig. Natural Communities*** Locally Significant Natural Communities**
Connectivity	Maintain connections among wildlife habitats for movement and gene flow	VTDFW Linkage Habitat Analysis UVM Bobcat GPS Collar Data LCA Contiguous Wildlife Habitat LCA Wildlife Tracking Project Bear Corridor LCA Wildlife Tracking Project Bear Corridor 1999 Charlotte Critical Habitat Corridors and Data Charlotte Linkage Habitat and Wildlife Tracking Data* Charlotte Wildlife Road Crossing Tracking Data
Ecological Process	Maintain significant ecological processes such as those associated with wetlands and floodplains	VTANR Groundwater and Aquifer Recharge Maps VTANR /Fluvial Erosion Hazard Zones UMass Charlotte Wetland Map Beaver habitats** Floodplains and Riparian Areas** Natural/Semi-natural Lakeshore** Wetlands Not Diked/Impounded**
Rare Species Protection	Contribute to regional persistence of rare species by protecting their habitat locally	VTDFW Rare, Threatened, and Endangered Species
Representation	Represent the full diversity of Charlotte's ecosystems	VBP Complementary Landscapes TNC Valley Floor Glacial Lake/Marine Plain Land Type TNC Valley Floor Gently Rolling (till-derived) Hill Land Type

*Town data layer and/or study created during 2006 SWHM project using a mix of remote and site assessment.

** Data layer and/or study developed as part of 2006 SWHM project. Most initially extracted from existing statewide or regional data layer, then refined through site assessment and finer scale mapping.

*** Town data layer and/or study prepared prior to the 2006 SWHM project

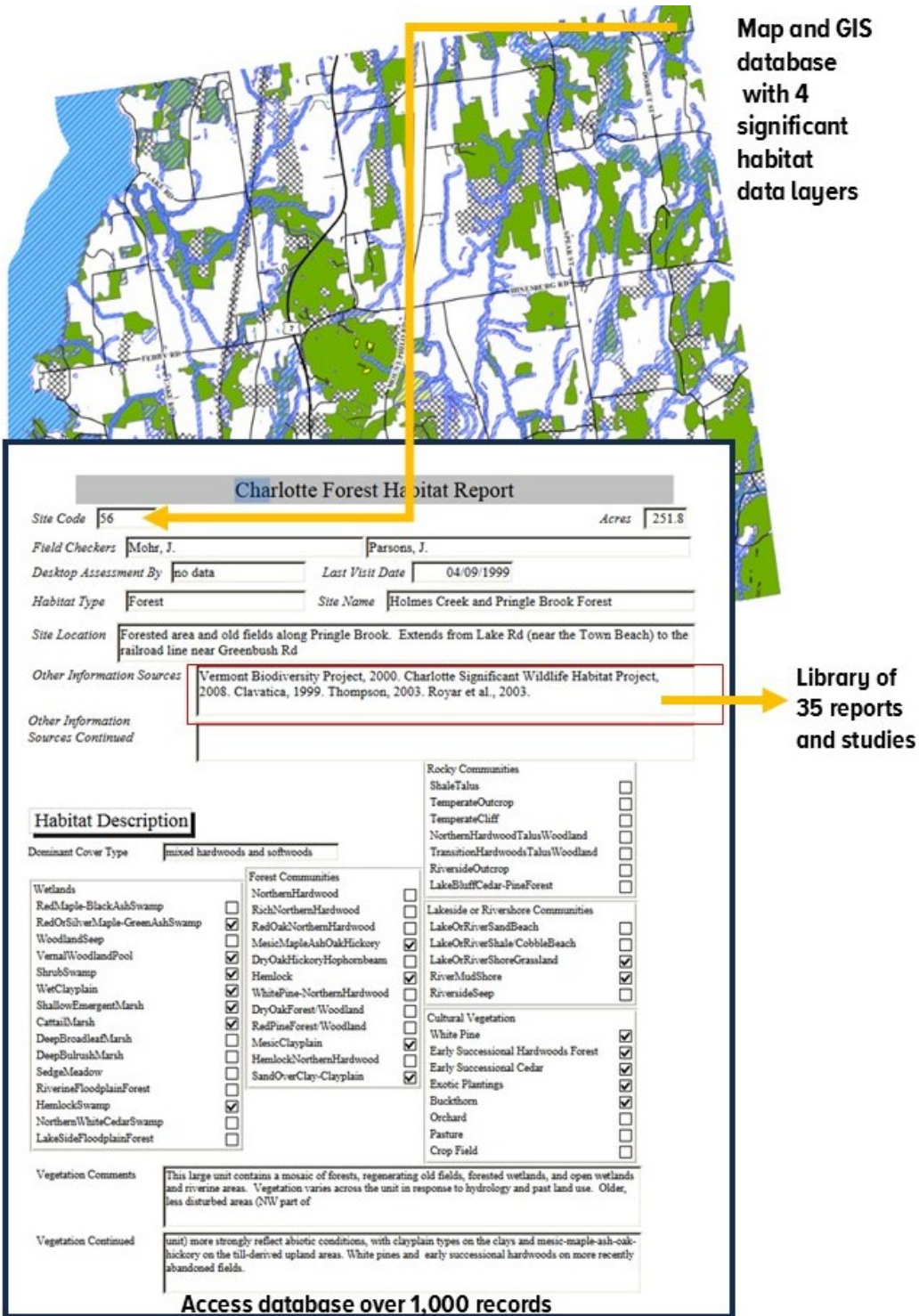


Figure 1: 2008 Charlotte Significant Wildlife Habitat Map Components - The 2008 SWHM consists of three components: a map and GIS database, an MS Access database with reports for individual habitat patches, and a library of referenced supporting studies and documents. As part of this proposal, the 2008 SWHM GIS and MS Access databases will be consolidated into a single modern GIS database.



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Attachment A- J Mohr Resume



1-PROPOSED SCOPE OF WORK

PHASE I: INVENTORY AND ASSESSMENT

I-1: Pre-work Meeting and Working Group Formation. NG will meet with CCC to review the scope of work, refine the schedule if needed, and discuss forming a working group for the update. The group will include CCC or its representatives, the VTDFW Community Wildlife Program, and other conservation organizations invited by the town.

I-2: Update Significant Wildlife Habitat Map (SWHM) Technical Methods. NG will work with CCC and the working group to update the 2008 *Technical Guide Justifying, Classifying, and Mapping Significant Habitat*, including criteria for determining which habitat patches qualify as significant. Since 2008, VTDFW has developed the Vermont Conservation Design (VCD) (Sorenson and Zaino, 2018), which provides a framework and shared nomenclature for conserving biodiversity in Vermont, and released *Conserving Vermont's Natural Heritage* (Austin et al., 2013), a community conserving planning guide. NG will revise the SWHM Technical Methods to align with the VCD framework and terminology and VTDFW's more recent conserving planning guides.

I-3: Update Habitat Mapping. NG will update the 2008 habitat layers to reflect current conditions and convert them to a new ArcGIS format, resulting in a comprehensive townwide habitat map.

Significant habitat patches will be assessed and determined in Phase II.

I-3a. Forest Habitat Mapping: Use VCD forest habitat block data (2016), recent aerial imagery, and E911 building data to update the forest habitat layer.

I-3b. Aquatic Habitat Mapping: Use National Wetlands Inventory (NWI), Vermont Significant Wetland Inventory (VSWI), and Vermont Hydrography Dataset (VHD) to update the aquatic habitat layer.

I-3c. Persistent Shrubland Habitat Mapping: Use recent aerial imagery, NWI, and Vermont High-Resolution Land Use/Land Cover data to update the shrubland habitat layer.

I-3d. Linkage Habitat Mapping: Use VCD connectivity blocks, riparian connectivity, modeled road crossing data, and recent aerial imagery to update the linkage habitat layer.

I-4: Habitat Change Assessment. NG will compare updated habitat layers with the 2008 layers to identify areas where significant habitat has been lost, gained, or potentially degraded. This assessment will inform updates to habitat descriptions and priorities for site assessment, and, in Phase-2, help determine which patches qualify as significant habitat.

I-5: Remote Assessments of Forest, Aquatic, and Shrubland Habitats. NG will review and, where applicable, transfer findings from the 2008 SWHM database to the updated habitat layers. Using recent aerial imagery, terrain and geologic data, Vermont Natural Heritage Inventory data, VCD layers, and other ancillary data sources, NG will remotely assess and update habitat descriptions and attributes. These assessments will inform updates to habitat descriptions and priorities for site assessment, and, in Phase-2, help determine which patches qualify as significant habitat.

I-6: Prioritize Properties for Site Assessments: Based on remote assessments (I-3 to I-5), along with input from the CCC and the working group, NG will prioritize parcels for site visits. Initial priorities for site assessment may include:

- Previously unvisited properties with likely significant habitats
- Significant habitats affected by recent land use changes or disturbances
- Properties not visited in over 25 years
- Properties within VCD highest-priority interior and connectivity blocks
- Highly dynamic habitats, such as river corridors, riparian areas, floodplains, and shrublands
- Highly vulnerable habitats, such as road crossings, significant natural communities, and rare species occurrences
- Properties with additional priorities identified in the Wildlife Action Plan (Kart et al., 2005), *Conserving Vermont's Natural Heritage* (Austin et al., 2013), or VCD (Sorenson and Zaino, 2018).



I-7: Support CCC with Landowner Permission for Site Assessments. NG will provide CCC with a map and spreadsheet of priority properties. If needed, NG can manage an online mapper and database to track landowner permissions and communications. A small budget is included for NG to assist CCC with direct landowner outreach, such as answering follow-up questions.

I-8: Site Assessments of Forest, Aquatic, and Shrubland Habitats. NG will visit priority parcels with secured landowner permission to inventory and assess significant habitats per the updated technical methods. NG will also document and refine ancillary data layers used to evaluate significant habitat (see Table 1), including but not limited to: state and locally significant natural communities, vernal pools, mast areas, and other priority habitats identified in the Vermont Wildlife Action Plan (Kart et al., 2005). The budget for this task varies significantly due to the dependency on obtaining permissions from landowners, which can be highly variable.

I-9: Remote Assessments of Linkage Habitats and Wildlife Road Crossings: NG will conduct a computer assessment and driving survey of potential wildlife road crossings, underpasses, and linkage habitats. Utilizing data from computer assessments, driving surveys, VCD connectivity block and modelled wildlife road crossing data, NG will prioritize potential crossings, underpasses, and linkage habitats for further survey and possible site visits.

I-10: Wildlife Road Crossing Surveys and Prioritization. NG will conduct winter wildlife track and sign surveys at select road crossings and underpasses identified in I-9. Following suitable snow events, NG will survey tracks and other signs of wildlife activity in public road ROWs. The surveys will document actual wildlife movement and functional habitat connectivity. Each site will be surveyed at least twice. NG will prioritize wildlife road crossings based on a combination of functional and structural connectivity measures.

PHASE II: SIGNICANT WILDLIFE HABITAT MAP UPDATE

II-1: Identify Draft Significant Wildlife Habitats and Create Draft SWHM

Using the updated methods (I-2), remote assessments (I-3 to I-5, I-10), and site assessments (I-8, I-11), NG will draft an updated SWHM. This will include a composite significant habitat layer and individual layers for forest, aquatic, shrubland, and linkage habitats. Each significant habitat patch will meet the minimum criteria for significance, with justification included in the attributes.

II-2: Review and Refine Draft SWHM and Methods as Needed. NG will present a draft SWHM to CCC and working group, including draft alternatives based on possible modifications to the methods. NG will collaborate with CCC to finalize the SWHM and supporting methods.

II-3 Prepare SWHM, Data, and Supplemental Narratives for Publication. With input from the CCC and working group, NG will prepare a static SWHM for printing, GIS data layers to be published in an online map viewer (see step (III-1)), and supplemental narrative to accompany the two map formats. The static map will include a composite significant habitat layer as well as individual significant forest, aquatic, linkage and shrubland layers. The significant habitat data layers and other ancillary layers used in the analysis (see Table 1) will be prepared for the online map viewer.

II-3: Prepare SWHM, Data, and Supplemental Narratives for Publication. With input from CCC and the working group, NG will prepare:

- A static SWHM for printing
- GIS data layers for an online map viewer (see III-1)
- Supplemental narrative to accompany both formats

II-4: Prepare SWHM Update Report. NG will prepare a report on the SWHM update summarizing:

- The current condition and extent of significant habitats



- The history and process of the SWHM update
- A review of SWHM components, archive locations, and update capacity

II-5: Update Site Review Protocol. NG will work with CCC and the working group to update the 2008 Protocol for Assessment of Impacts of Proposed Development on Significant Wildlife Habitat in Charlotte. Updates will reflect revised methods (I-2), VCD terminology, and feedback from past use.

PHASE III: OUTREACH

III-1: Create Updated Online Map Viewer. In collaboration with the Chittenden County Regional Planning Commission (CCRPC), NG will develop an updated Charlotte Significant Wildlife Habitat Online Map Viewer. This map viewer will include significant forest, aquatic, early successional, and linkage habitats and underlying habitat data. Additionally, it will feature ancillary data layers used or developed in the analysis (see Table 1). The final design and functionality of the map viewer will be developed with input from CCC and CCRPC.

III-2: Online Map Viewer Training. NG will train CCC, town commissioners, and employees on using the online map viewer.

III-3: Presentation on SWHM Update and Findings. NG will deliver a presentation on the update and its findings. At CCC's discretion, this presentation may be given to town commissioners or prepared for a wider public audience.

2-NATIVE GEOGRAPHIC, LLC

Native Geographic, LLC is a small ecological consulting firm providing a wide range of natural resource inventory, planning, conservation, mapping, and research services for land trusts, local and state governments, private landowners, non-profits, and other land management, education, and conservation organizations. NG is owned and operated by Jesse Mohr. Jesse has been working, studying, and teaching in the fields of ecology and conservation for over 15 years. He is a Certified Wildlife Biologist®, Certified Forester® and has undergraduate (BS from Evergreen State College) and graduate (MS from University of Vermont) degrees in the field of applied ecology and conservation. He is also a licensed forester in NH and VT.

Jesse Mohr will provide all services included in this scope of work. Mr. Mohr's resume is included as an attachment and summary of related qualifications below. No subcontractors are currently included in this proposal.

3-QUALIFICATIONS

Primary Consultant for the 2008 Charlotte Significant Wildlife Habitat Map Project. From 2005-2010, Jesse Mohr of NG was the primary consultant behind a multi-year project to identify, map, and prioritize a network of significant wildlife habitat, biodiversity areas, and other natural resources in Charlotte, Vermont. See 8-Work Samples for more details.

Over 20 years of experience in wildlife and natural resource inventories and assessments, working with municipalities, land trusts, state and federal agencies, conservation organizations, private landowners, and other public landowners. This includes inventories and assessments of forest, wildlife, natural communities, soil, wetlands, surface water, connectivity, and climate resilience resources. Experience spans from inventories of less than 100 acres to multi-town assessments.

Over 15 years of Vermont-specific experience. NG has education, professional training, and experience in mapping, identifying, and assessing wildlife habitats and natural resources in VT. This includes guiding town planning, land/use regulation, management planning, and conservation.



Recently, NG worked on natural resource inventories for Hinesburg, Greensboro, and Thetford. See 8-Work Samples for more details on these projects.

Over 15 years of experience working with municipalities and in public forums, including collaboration with the following towns: Sugar Hill (NH), Landaff (NH), Easton (NH), Franconia (NH), Thetford (VT), Hinesburg (VT), Charlotte (VT), Jericho (VT), Richmond (VT), and Underhill (VT). NG has experience with public presentations, public meetings, public trainings, and facilitating public input during natural resource planning.

Specific training and experience in communicating technical information to a public audience: Jesse Mohr attended the Ecological Planning/Field Naturalist graduate program at the University of Vermont (2004-2006), which focused on conveying technical content to the public. Since then, NG has led projects and taught classes on presenting scientific information to broader audiences.

4-DELIVERABLES

- **Static Map(s):** A map or suite of maps accompanied by a supplemental narrative, illustrating Significant Wildlife Habitat within the town of Charlotte.
- **GIS Data:** An ArcGIS database containing significant habitat data layers (composite, forest, aquatic, shrubland, and linkage) along with ancillary data layers utilized or developed during the update (see Table 1).
- **Online Map Viewer:** An online map viewer with a supplemental narrative hosted through the CCRPC, which will include significant wildlife habitat GIS data layers and the ancillary data layers used and/or developed during this study. See Section 5 - Online Map Viewer.
- **Updated Technical Methods Report:** A report detailing the updated project methods, including the minimum criteria for determining significant habitats.
- **Updated Site Review Protocol:** Revised protocol used to evaluate the impacts of proposed developments on significant habitats.
- **Report on SWHM Update:** Report on the updated SWHM with an overview of significant habitats in the town, summarizing the map history and current update process, and reviewing the various components of SWHM.
- **Presentation:** A presentation on the update and findings. NG will collaborate with CCC to determine the presentation details and audience.
- **Training:** A training session for the CCC on utilizing the online map viewer.

5-ONLINE MAP VIEWER

NG recommends that the SWHM, including the four significant wildlife habitat data layers and the ancillary data layers utilized and/or developed during this study, be made accessible via an online map viewer developed and hosted by the CCRPC. This mapping platform will incorporate supplemental text to explain the map contents, functionalities, and data layers. Additionally, the site-specific habitat reports, previously stored in an MS Access Database and accessible as linked PDF files, will be directly integrated into the GIS data, allowing them to be viewed and potentially edited as attribute data through point-and-click functionality within the online map viewer. As part of this project scope, NG will collaborate with CCC and CCRPC to determine the level of detail, functionality, and access available through the online map viewer.

6-PROPOSED SCHEDULE

NG suggests a minimum two-year timeline to accommodate two winters of tracking surveys, which NG believes is the minimum required to complete town-wide wildlife road crossing surveys. The forest, aquatic, and shrubland site assessments would also benefit from two summers of data collection but could be done in one if necessary. The multi-year phased schedule also allows for CCC and working group input and review throughout the process, ensuring the creation of practical



deliverables. NG proposes the following schedule that could be adjusted based on the availability of funding and CCC support.

- **Fall 2025:** Phase I remote mapping and assessments (Tasks I-3, I-4, I-5 and I-9). Also, complete pre-work meeting (I-1) and update SWHM technical methods (I-2),
- **Winter 2025/26:** Phase I wildlife road crossing surveys (I-10) and prep for summer site assessments (I-6 and I-7).
- **Spring-Summer 2026:** Phase I forest, aquatic, and shrubland habitat site assessments (I-8)
- **Winter 2026/27:** Phase I wildlife road crossing surveys (I-10). As needed, prep for summer site assessments (I-6 and I-7).
- **Spring-Summer 2027:** As needed, phase I forest, aquatic, and shrubland habitat site assessments (I-8).
- **Fall 2027:** Phase II drafting, and as needed refining, of SWHM (II-1 and II-2)
- **Winter 2027/28:** Phase II preparation of SWHM and other deliverables (II-3, II-4, and II-5)
- **Spring 2028:** Phase III outreach, including publishing the online map viewer (III-1), map viewer training (III-2), and public presentation (III-3)

7-ESTIMATED BUDGET

Task	Max Cost	Min Cost	Max Hours	Min Hours
Phase I: Inventory and Assessment				
I-1: Pre-work Meeting and Working Group Formation	260	195	4	3
I-2: Update SWHM Technical Methods	780	650	12	10
I-3: Update Habitat Mapping	2080	1560	32	24
I-4: Habitat Change Assessment	1040	780	16	12
I-5: Forest, Aquatic, and Shrubland Habitat Remote Assessments	2080	1820	32	28
I-6: Prioritize Properties for Site Assessments	520	390	8	6
I-7: Support CCC with Permission for Site Assessments	520	390	8	6
I-8: Forest, Aquatic, and Shrubland Habitat Site Assessments	4160	2600	64	40
I-9: Linkage Habitat and Wildlife Road Crossing Remote Assessments.	1560	1040	24	16
I-10: Wildlife Road Crossing Surveys and Prioritization	3640	3120	56	48
Phase II: Significant Wildlife Habitat Update				
II-1: Identify Significant Wildlife Habitats and Create Draft SWHM	2080	1560	32	24
II-2: Review and as Needed Refine Draft SWHM and Methods	1040	780	16	12
II-3 Prepare SWHM, Data, and Supplemental Narratives for Publication	2600	2080	40	32
II-4: Prepare SWHM Update Report	2600	2080	40	32
II-5: Update Site Review Protocol	1040	780	16	12
Phase III: Outreach				
III-1: Create Updated Online Map Viewer	1040	780	16	12
III-2: Online Map Viewer Training	520	390	8	6
III-3: Presentation on SWHM Update and Findings	520	390	8	6
Project Management and Additional Meetings				
Project Management	1560	1300	24	20
Additional Project Meetings	520	390	8	6
ESTIMATED TOTAL	30160	23075	464	355



8-WORK SAMPLES

Hinesburg, Thetford, and Greensboro Natural Resource Inventories

Since 2020, NG has been collaborating with the Thetford and Hinesburg Conservation Commissions and the Greensboro Land Trust on multi-phased town natural resource inventories. These projects involve comprehensive natural resource inventories, the development of planning and educational maps, and the compilation of data for future land use and conservation planning. Each project began with an initial Phase 1 Natural Resource Inventory, conducted primarily through remote analysis, followed by Phase 2 site assessments, which are field-based and have included wildlife road crossings and underpasses, amphibian road crossings, significant natural communities, and forest blocks, along with incidental mapping of mast areas, bear mast areas, vernal pools, and floodplain forests. Jesse Mohr has overseen all aspects of these projects.

For Greensboro and Thetford, NG drafted a suite of maps and reports detailing the Phase 1 inventory findings. The Thetford maps, NRI report, and related presentations are available on the Thetford Conservation Commission website at: <https://www.thetfordvt.gov/government/conservation-commission>. Please contact Jim McCracken and/or Krista Karlson (see References) if you are interested in receiving a reference for this project. A copy of the Greensboro report and maps can also be made available upon request.

For Hinesburg, NG partnered with HCC and CCRPC to develop an online mapper and a suite of static maps, both supplemented with narratives describing the map content and layers. Additionally, NG hosted training sessions for the online mapper, all of which are available through the Hinesburg Conservation Commission website at: <https://www.hinesburg.org/conservation-commission/pages/natural-resources-inventory>. Please contact Kate Kelly (see References) if you are interested in receiving a reference for this project.

Town of Charlotte 2008 Significant Wildlife Habitat Map

From 2005 to 2010, Jesse Mohr served as the primary consultant for a multi-year project aimed at identifying, mapping, and prioritizing a network of significant wildlife habitats, biodiversity areas, and natural resources in Charlotte, Vermont. Collaborating with the Charlotte Conservation Commission and Vermont Fish and Wildlife staff Jens Hilke and John Austin, Jesse Mohr and Matthew Kolan of the University of Vermont developed and implemented a methodological framework that combined remote and site-based assessments. The inventory and mapping process covered core habitat, open spaces, rare and priority species habitats, significant natural communities, streams, wetlands, riparian areas, floodplains, vernal pools, steep slopes, mast areas, deer wintering habitat, wildlife corridors, and unusual geologic features. Some of this work was completed prior to NG's incorporation.

The project resulted in the creation of a town 2009 SWHM and an interactive mapper for planning, conservation, and development review purposes. NG led mapping, analysis, site visits, and collaboration with CCRPC to develop the map viewer and ensure its usability. The SWHM was designed alongside a protocol for evaluating the impact of development and land use changes on significant habitat areas.

Charlotte Land Trust Project Evaluation and Baseline Documentation

Since 2010, NG has collaborated with the Charlotte Land Trust on local conservation projects. These activities include assessing the conservation values of potential projects, providing guidance on allowed uses and restrictions, identifying ecological special treatment areas, and documenting baseline conditions of conserved lands. The 2008 SWHM is regularly used and cited in the evaluation of conservation projects in town. Please contact Katherine Lampton (see References) if you require a reference for this work.



9-REFERENCES

Kate Kelly, *Hinesburg Conservation Commission Chair*. Contact: katekelly01@gmail.com or 573-465-1774

Katherine Lampton, *Charlotte Land Trust President*. Contact: klampton@gmavt.net or 802-425-2794

Jim McCracken, *Thetford Conservation Commission Co-Chair*. Contact: jmccc211@gmail.com

Krista Karlson, *Thetford Conservation Commission Co-Chair*. Contact: kkarlson95@gmail.com

10-CITATIONS

Austin, J., C. Alexander, E. Marshall, F. Hammond, J. Shippee, and E. Thompson. 2013. *Conserving Vermont's Natural Heritage: A Guide to Community-Based Planning for Conservation of Vermont's Fish, Wildlife, and Biological Diversity*. Vermont Fish and Wildlife Department and Agency of Natural Resources, Waterbury, VT.

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Royar, K., J. Austin, and K. Behm. 2003. *Contiguous Wildlife Habitat – Lewis Creek and LaPlatte River Watershed Region: Landscape Level Identification of Contiguous Wildlife Habitat and Connecting Lands for the Lewis Creek and LaPlatte River Watersheds and Adjoining Lands*

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Thompson, E., L. Perlow. 2005. *Thorp Brook and Lower Kimbal Brook Wetlands Significant Natural Communities, Wildlife Values, and Wetland Functions and Values Assessment*. Prepared for the Town of Charlotte.

Thompson, E. 2003. *Significant Natural Communities of Charlotte*. Prepared for the Town of Charlotte.

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Sample Documentation of Connection & Usage Fees

Initial Connection Fee

Existing System Cost Recovery				
\$	302,500	System Infrastructure Construction Costs		
\$	15,000	Design & Permitting Costs		
\$	317,500	(PDSC) Present Day System Cost (OSC x IA)		
	6499	(SDF) System Design Flows in GPD		
\$	48.85	(DSC) Disposal System Cost Per GPD of Design Flow (PDSC / SDF)		
\$	4,885.00	= Approved GDP of Design Flow for Property:	100	x \$ 48.85

Quarterly Administrative & Infrastructure Fees

Capacity Fee				
\$	4,500	Annual System Inspection		
\$	500	Annual Billing & Management Cost Sharing Allocation		
\$	5,000	Total Fixed Administration Costs		
	3	Number of System Connections		
\$	1,667	Cost Per Connection Allocated to Annual Administration Fee		
\$	417	Cost Per Connection Quarterly Admin. Fee		

(BPL) Annual Cost of Burns Property Usage/Lease

\$	30,000	(ASV) Assessor's Sewage Added Value of Per Equivalent Unit Wastewater System Capacity		
	6499	(SDF) System Design Flow in GPD of Disposal System		
	490	(DA) Design Allocation flow in GPD to Equivalent Unit Connection		
	13.26	(EU = SDF/DA) Number of Equivalent Units (EU) in System Capacity		
\$	397,898	(FMV) Fair Market Value of Property Wastewater Capacity (ASV x EU)		
	40	(YR) Design Life		
\$	9,947	(AV) Annual Valuation		
	6,499	(SDF) System Design Flow in GPD of Town Disposal System		
\$	1.53	(ACC) Annual Connection Cost per GPD of Design Flow for Connection (AV/SDF)		
\$	0.38	(QCC) Quarterly Connection Cost per GPD of Design Flow for Connection (ACC/4)		
\$	38.27	= Approved GDP of Design Flow for Property:	100	x \$ 0.38

Sinking Fund Contribution (To be updated annually)

	Cost	Life (Yrs)	Span Pd.	Cost/30 Yrs
Pump Station Electrical Sys.	\$ 4,800	10	30	\$ 14,400
Pumps & Railing	\$ 10,700	12	30	\$ 26,750
Disposal Field Expansion	\$ 42,800	30	30	\$ 42,800
Disposal Field Renovation	\$ 32,000	30	30	\$ 32,000
Planning Costs	\$ 5,400	10	30	\$ 16,200
				\$ 132,150 every 30 Years
\$	132,150	(ERC) Estimated Replacement Cost Every 30 Years		
\$	4,405	(AERC) Annualized Estimated Replacement Cost (ERC/30)		
	6499	(SDF) System Design Flow in GPD of Disposal System		
\$	0.68	(UAERC) Unitized Annual Replacement Cost		
\$	0.17	(QERC) Quarterly Estimated Sinking Fund Replacement Costs (UAERC/4)		
\$	16.94	= Approved GDP of Design Flow for Property:	100	x \$ 0.17

Quarterly Cost Summary

\$	417	Cost Per Connection Quarterly Admin. Fee		
\$	38.27	(BPL) Annual Cost of Burns Property Usage/Lease		
\$	16.94	Sinking Fund Contribution		
\$	472	Per Quarter =	\$ 1,888	Per Year